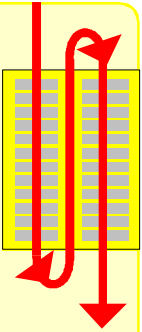
Instructions



Scrolling through a two-column document on-screen from the bottom of one column to the top of the next, and so on, can get very tedious. Fortunately, “column threading” is automatic with this software. Here are the basic tools and techniques that you need to know to efficiently navigate through the columns in this document …

1. Click on the hand tool in the button bar. 

2. Whenever the hand cursor is positioned over a column, the cursor changes to the “read article cursor”,  and “Read Article” appears in the status bar to indicate that this text is part of an “article”. *An article is a collection of columns selected by the editor that comprise one subject, like one of the articles on the front page of a newspaper. Each first-level section (1.1, 1.2, 1.3…) of the NTIA Manual has been defined as a separate article.*
   Click any part of the article to start reading at that point, or control-click to start at the beginning of the article. The cursor now changes to the follow-article cursor, and “Follow Article” appears in the status bar.

3. To page down, simply click the mouse, or use the scrollbar, or press the PageDown key. *You can keep track of where you are on the page if you're using the thumbnails-and-page view. In this view a selection rectangle moves over a thumbnail of the page as you scroll through the columns in the page view window.*

4. You can continue to click until you reach the end of the article. At the end of the article, the cursor changes to the end-article cursor, and "End Article" appears in the status bar. Click again to return to the page view displayed before you started reading the article. Click the fit page button.

5. If you want to exit before the end of the article…
   - select any navigation method (but not Enter or Return)
   - Go to another article or page
   - Hold down Shift + Ctrl and click.

6. You can also select which article (NTIA Manual Section) to view by choosing “Articles…” from the View menu, and then selecting the article you want from the dialog box that appears. *You can keep* this dialog box displayed so you can go from one article to another, or better yet, use the bookmarks method described in #7 below.

7. The best way to select which article (NTIA Manual Section) to view is to switch to the “Bookmarks-and-Page” view, click on the section name bookmark, click with the hand cursor on the page, then navigate with the hand tool as described in #1-5 above. Links to all of the sections are provided — as well as links to tables, figures, endnotes, and even these instructions.

8. To select text within a column, click the text selection tool, hold down the Control key, and drag to select the text you want to copy.

CHAPTER 4

Allocations, Allotments and Plans

4.1 FREQUENCY ALLOCATIONS

4.1.1 ITU Table of Frequency Allocations

The ITU Table of Frequency Allocations is that table contained in Article 8 of the ITU Radio Regulations, 1982 Edition.

4.1.2 National Table of Frequency Allocations

The National Table of Frequency Allocations is comprised of the U.S. Government Table of Frequency Allocations and the FCC Table of Frequency Allocations. The National Table indicates the normal national frequency allocation planning and the degree of conformity with the ITU Table. When required in the national interest and consistent with national rights, as well as obligations undertaken by the United States to other countries that may be affected, additional uses of frequencies in any band may be authorized to meet service needs other than those provided for in the National Table.

Specific exceptions to the National Table of Frequency Allocations are as follows:

A Government frequency assignment may be authorized in a non-Government band, as an exception, provided a) the assignment is coordinated with the FCC and b) no harmful interference will be caused to the service rendered by non-Government stations, present or future.

A non-Government frequency assignment may be authorized in a Government band, as an exception, provided a) the assignment is coordinated with the IRAC and b) no harmful interference will be caused to the service rendered by Government stations, present or future.

In the case of bands shared by Government and non-Government services, frequency assignments therein shall be subject to coordination between the IRAC and the FCC and no priority is recognized unless the terms of such priority are specifically defined in the National Table of Frequency Allocations or unless they are subject to mutually agreed arrangements in specific cases.

4.1.3 U.S. Government Table of Frequency Allocations

The U.S. Government Table of Frequency Allocations shall be used as a guide in the assignment of radio frequencies to Government radio stations in the United States and Possessions. Exceptions to the Table may be made by the IRAC after careful consideration to avoid harmful interference and to ensure compliance with the ITU Radio Regulations.

For the use of frequencies by Government radio stations outside the United States and Possessions, Government agencies shall be guided insofar as practicable by the ITU Table of Frequency Allocations and, where applicable, by the authority of the host government. Maximum practicable effort should be made to avoid the possibility of harmful interference to other authorized U.S. operations. If harmful interference is considered likely, it is incumbent upon the agency conducting the operation to coordinate with other U.S. Flag users, as provided for in Section 8.3.11.

Application of the U.S. Government Table is subject to the recognition that:

below 25000 kHz the Table is only applicable in the assignment of frequencies after September 5, 1961;

under Article 38 of the International Telecommunication Convention, administrations “retain their entire freedom with regard to military radio installations of their army, naval and air forces”; and under No. 342 of the ITU Radio Regulations, administrations may assign frequencies in derogation of the ITU Table of Frequency Allocations “on the express condition that harmful interference shall not be caused to services carried on by stations operating in accordance with the provisions of the Convention and of these Regulations.”

Some frequency assignments below 25000 kHz that

were made before September 5, 1961, are not in conformity with the Government Table. Because of the exception mentioned in the first subparagraph above, the status of these assignments can be determined only on a case-by-case basis. With this exception, the rules pertaining to the relative status between radio services are as follows:

Primary and permitted services have equal rights, except that, in the preparation of frequency plans, the primary service, as compared with the permitted service, shall have prior choice of frequencies.

Secondary services are on a non-interference basis to the primary and permitted services. Stations of a secondary service:

(a) shall not cause harmful interference to stations of primary or permitted services to which frequencies are already assigned or to which frequencies may be assigned at a later date;

(b) cannot claim protection from harmful interference from stations of a primary or permitted service to which frequencies are already assigned or may be assigned at a later date;

(c) can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

Additional allocation - where a band is indicated in a footnote of the Table as "also allocated" to a service in an area smaller than a Region, or in a particular country. For example, an allocation which is added in this area or in this country to the service or services which are indicated in the Table.

Alternative allocation - where a band is indicated in a footnote of the Table as "allocated" to one or more services in an area smaller than a Region, or in a particular country. For example, an allocation which replaces, in this area or in this country, the allocation indicated in the Table.

Different category of service - where the allocation category (primary, permitted, or secondary) of the service in the Table is changed. For example, the Table reflects the allocation as Fixed, Mobile and RADIOLOCATION, the category of these services are changed by the footnote to FIXED, MOBILE and Radiolocation.

An allocation or a footnote to the Government Table denoting relative status between radio services automatically applies to each assignment in the band to which the footnote or allocation pertains, unless at the time of a particular frequency assignment action a different provision is decided upon for the assignment concerned.

A priority note reflecting the same provisions as an allocation or an applicable footnote to the Government Table is redundant and shall not be applied to frequency assignments.

An assignment that is in conformity with the service allocation (as amplified by pertinent footnotes) for the band in which it is contained takes precedence over assignments therein that are not in conformity unless, at the time of the frequency assignment action, a different provision is decided upon.

Where in this Table a band is indicated as allocated to more than one service, such services are listed in the following order:

(a) services, the names of which are printed in all capital letters (example: FIXED); these services are called "primary" services;

(b) services, the names of which are printed in "capitals between oblique strokes" (example: /RADIOLOCATION/); these are called "permitted" services;

(c) services, the names of which are printed in "normal characters" (example: Mobile); these are "secondary" services.

The columns to the right of the double line show the national provisions; those to the left show the provisions of the ITU Table of Frequency Allocations.

Column 1 indicates the national band limits.

Column 2 indicates the Government allocation, including all "US" and "G" footnotes considered to be applicable to the Government nationally. Where the allocated service is followed by a function in parentheses, e.g., SPACE (space-to-Earth), the allocation is limited to the function shown.

Column 3 indicates the non-Government allocation including all "US" footnotes, and certain "NG" footnotes as contained in Part 2 of the FCC Rules and Regulations. Where the allocated service is followed by a function in parentheses, e.g., SPACE (space-to-Earth), the allocation is limited to the function shown. These data have been included in the Government Table for information purposes only.

Column 4 contains such remarks as serve to amplify the Government and non-Government allocations or point up understanding between the FCC and IRAC/NTIA in respect thereof.

The international footnotes shown in the columns to the left of the double line are applicable only in the relationships between the United States and other countries. An international footnote is applicable to the U.S. Table of Allocations if the number also appears in Columns 2 and 3 of the U.S. Table. The international footnote is then applicable to both Government and non-Government use.

The texts of footnotes in this Table are listed in numerical order at the end of the Table, in sections headed Government Footnotes, U.S. Footnotes, International Footnotes, and NG Footnotes.

ITU RADIO REGULATIONS

Chart of Regions as Defined in Table of Frequency Allocations

(See Nos. **393** to **399**)

(Half Page Art)

The shaded part represents the Tropical Zone as defined in Nos. **406** to **410** and **411**

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
Below 9 (Not Allocated) 444 445			Below 9	(Not Allocated) 444 445	(Not Allocated) 444 445	
9-14 RADIONAVIGATION			9-14	RADIONAVIGATION US18 US294	RADIONAVIGATION US18 US294	
14-19.95 FIXED MARITIME MOBILE 448 446 447			14-19.95	FIXED MARITIME MOBILE US294 448	Fixed US294 448	
19.95-20.05 STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)			19.95-20.05	STANDARD FREQU-ENCY AND TIME SIGNAL (20 kHz) US294	STANDARD FREQU-ENCY AND TIME SIGNAL (20 kHz) US294	FCC Rules and Regulations make no provisions for the licensing of standard fre-quency stations.
20.05-70 FIXED MARITIME MOBILE 448 447 449			20.05-59	FIXED MARITIME MOBILE US294 448	FIXED US294 448	
			59-61	STANDARD FREQUENCY AND TIME SIGNAL (60 kHz) US294	STANDARD FREQUENCY AND TIME SIGNAL (60 kHz) US294	FCC Rules and Regulations make no provisions for the licensing of standard fre-quency stations.
			61-70	FIXED MARITIME MOBILE US294 448	FIXED US294 448	
70-72 RADIONAVIGATION 451	70-90 FIXED MARITIME MOBILE 448 MARITIME RADIONAVIGATION 451 Radiolocation 452	70-72 RADIONAVIGATION 451 Fixed Maritime Mobile 448 450	70-90	FIXED MARITIME MOBILE Radiolocation US294 448 451	FIXED Radiolocation US294 448 451	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
72-84 FIXED MARITIME MOBILE 448 RADIONAVIGATION 451 447		72-84 FIXED MARITIME MOBILE 448 RADIONAVIGATION 451				
84-86 RADIONAVIGATION 451		84-86 RADIONAVIGATION 451 Fixed Maritime Mobile 448 450				
86-90 FIXED MARITIME MOBILE 448 RADIONAVIGATION 447		86-90 FIXED MARITIME MOBILE 448 RADIONAVIGATION 451				
90-110 RADIONAVIGATION 453 Fixed 453A 454			90-110	RADIONAVIGATION US18 US104 US294 453	RADIONAVIGATION US18 US104 US294 453	
110-112 FIXED MARITIME MOBILE RADIONAVIGATION 454	110-130 FIXED MARITIME MOBILE MARITIME RADIONAVIGATION 451 Radiolocation 452 454	110-112 FIXED MARITIME MOBILE RADIONAVIGATION 451 454	110-130	FIXED MARITIME MOBILE Radiolocation US294 451 454	FIXED MARITIME MOBILE Radiolocation US294 451 454	
112-115 RADIONAVIGATION 451		112-117.6 RADIONAVIGATION 451 Fixed Maritime Mobile 454 455				

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
115-117.6 RADIONAVIGATION 451 Fixed Maritime Mobile 454 456						
117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION 451 454		117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION 451 454				
126-129 RADIONAVIGATION 451		126-129 RADIONAVIGATION 451 Fixed Maritime Mobile 454 455				
129-130 FIXED MARITIME MOBILE RADIONAVIGATION 451 454		129-130 FIXED MARITIME MOBILE RADIONAVIGATION 451 454				
130-148.5 MARITIME MOBILE /FIXED/ 454 457	130-160 FIXED MARITIME MOBILE 454	130-160 FIXED MARITIME MOBILE RADIONAVIGATION 454	130-160	FIXED MARITIME MOBILE US294 454	FIXED MARITIME MOBILE US294 454	
148.5-255 BROADCASTING 460 461 462	160-190 FIXED 459	160-190 FIXED Aeronautical Radionavigation	160-190	FIXED MARITIME MOBILE US294 459	FIXED US294 459	
	190-200 AERONAUTICAL RADIONAVIGATION		190-200	AERONAUTICAL RADIONAVIGATION US18 US226 US294	AERONAUTICAL RADIONAVIGATION US18 US226 US294	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
	200-275 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	200-285 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	200-275	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile US18 US294	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile US18 US294	
255-283.5 BROADCASTING /AERONAUTICAL RADIONAVIGATION- /463 462 464	275-285 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons)		275-285	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) US18 US294	AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons) US18 US294	
283.5-315 MARITIME RADIONAVIGATION (radiobeacons) 466 /AERONAUTICAL RADIONAVIGATION/ 465 466A	285-315 MARITIME RADIONAVIGATION (radiobeacons) 466 /AERONAUTICAL RADIONAVIGATION/		285-325	MARITIME RADIONAVIGATION (radiobeacons) Aeronautical Radionavigation (Radiobeacons) US18 US294 G121 466	MARITIME RADIONAVIGATION (radiobeacons) Aeronautical Radionavigation (Radiobeacons) US18 US294 466	
315-325 AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 466 465 467	315-325 MARITIME RADIONAVIGATION (radiobeacons) 466 Aeronautical Radionavigation	315-325 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 466				
325-405 AERONAUTICAL RADIONAVIGATION 465	325-335 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile Maritime Radionavigation (radiobeacons)	325-405 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile	325-335	AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical Mobile Maritime Radionavigation (radiobeacons) US18 US294	AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical Mobile Maritime Radionavigation (radiobeacons) US18 US294	
	335-405 AERONAUTICAL RADIONAVIGATION Aeronautical Mobile		335-405	AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical Mobile US18 US294	AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical Mobile US18 US294	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
405-415 RADIONAVIGATION 468 465	405-415 RADIONAVIGATION 468 Aeronautical Mobile		405-415	RADIONAVIGATION Aeronautical Mobile US18 US294 468	RADIONAVIGATION Aeronautical Mobile US18 US294 468	
415-435 AERONAUTICAL RADIONAVIGATION /MARITIME MOBILE-/470 465	415-495 MARITIME MOBILE 470 Aeronautical Radionavigation 470A 469 469A 471 472A		415-435	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE US294 469A 470	AERONAUTICAL RADIONAVIGATION MARITIME MOBILE US294 469A 470	
435-495 MARITIME MOBILE 470 Aeronautical Radionavigation 465 471 472A			435-495	MARITIME MOBILE Aeronautical Radionavigation US231 US294 470 471 472A	MARITIME MOBILE US231 US294 470 471 472A	The frequency 480 kHz is available to low power Government Coast stations for the calibration of ship direction finders on the condition that harmful interference is not caused to the maritime mobile service.
495-505 MOBILE (distress and calling) 472			495-505	MOBILE (distress and calling) 472	MOBILE (distress and calling) 472	500 kHz distress and calling
505-526.5 MARITIME MOBILE 470 /AERONAUTICAL RADIONAVIGATION/ 465 471 474 476	505-510 MARITIME MOBILE 470 471	505-526.5 MARITIME MOBILE 470 474 /AERONAUTICAL RADIONAVIGATION/ Aeronautical Mobile Land Mobile 471	505-510	MARITIME MOBILE 470 471	MARITIME MOBILE 470 471	
	510-525 MOBILE 474 AERONAUTICAL RADIONAVIGATION		510-525	AERONAUTICAL RADIONAVIGATION (radiobeacons) MARITIME MOBILE (Ships Only) US14 US18 US225 474	AERONAUTICAL RADIONAVIGATION (radiobeacons) MARITIME MOBILE (Ships Only) US14 US18 US225 474	518 kHz is used for international NAVTEX in the maritime mobile service.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
	525-535 BROADCASTING 477 AERONAUTICAL RADIONAVIGATION		525-535	AERONAUTICAL RADIONAVIGATION (radiobeacons) MOBILE US18 US221 US239	AERONAUTICAL RADIONAVIGATION (radiobeacons) MOBILE US18 US221 US239	530 kHz Travelers Information Service
526.5-1606.5 BROADCASTING 478		526.5-535 BROADCASTING Mobile 479				
	535-1605 BROADCASTING	535-1606.5 BROADCASTING	535-1605		BROADCASTING NG128	
	1605-1625 BROADCASTING 480 480A		1605-1615	MOBILE US221 480 G127	MOBILE US221 480	1610 kHz Travelers Information Systems
1606.5-1625 MARITIME MOBILE 480A /FIXED/ /LAND MOBILE/ 483 484		1606.5-1800 FIXED MOBILE RADIOLOCATION RADIONAVIGATION 482	1615-1625	US237 US299 480	BROADCASTING US237 US299 480	Broadcasting implementation is subject to decisions of a future Region 2 Administrative Radio Conference.
1625-1635 RADIOLOCATION 487 485 486	1625-1705 BROADCASTING 480 /FIXED/ /MOBILE/ Radiolocation 480A		1625-1705	Radiolocation US238 US299 480	BROADCASTING Radiolocation US238 US299 480	
1635-1800 MARITIME MOBILE 480A /FIXED/ /LAND MOBILE/ 483 484 488						
	1705-1800 FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION		1705-1800	FIXED MOBILE RADIOLOCATION US240	FIXED MOBILE RADIOLOCATION US240	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1800-1810 RADIOLOCATION 487 485 486	1800-1850 AMATEUR	1800-2000 AMATEUR FIXED MOBILE except aero- nautical mobile RADIONAVIGATION Radiolocation 489	1800-1900		AMATEUR	
1810-1850 AMATEUR 490 491 492 493						
1850-2000 FIXED MOBILE except aero- nautical mobile 484 488 495	1850-2000 AMATEUR FIXED MOBILE except aero- nautical mobile RADIOLOCATION RADIONAVIGATION 494		1900-2000	RADIOLOCATION US290	RADIOLOCATION US290	
2000-2025 FIXED MOBILE except aero- nautical mobile (R) 484 495	2000-2065 FIXED MOBILE		2000-2065	FIXED MOBILE	MARITIME MOBILE NG19	2003 kHz, intership frequency on the Great Lakes.
2025-2045 FIXED MOBILE except aero- nautical mobile (R) Meteorological Aids 496 484 495						
2045-2160 MARITIME MOBILE /FIXED/ /LAND MOBILE/ 483 484	2065-2107 MARITIME MOBILE 497 498		2065--2107	MARITIME MOBILE	MARITIME MOBILE	
			2065-2068.5	Ship and coast (telephony) 497	Ship and coast (telephony) 497	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			2068.5-2078.5	Ship (Wide-band telegraphy, facsimile and space transmis-sion systems) US296	Ship (Wide-band telegraphy, facsimile and space transmis-sion systems) US296	
			2078.5-2089.5	Ship and coast (telephony) 497	Ship and coast (telephony) 497	
			2089.5-2092.5	Ship (Calling, telegraphy)	Ship (Calling, telegraphy)	
			2092.5-2107	Ship and coast (telephony) 497	Ship and coast (telephony) 497	
2160-2170 RADIOLOCATION 487 485 486 499	2107-2170 FIXED MOBILE		2107-2170	FIXED MOBILE	FIXED LAND MOBILE MARITIME MOBILE NG19	
2170-2173.5 MARITIME MOBILE			2170-2173.5	MARITIME MOBILE (Telephony)	MARITIME MOBILE (Telephony)	
2173.5-2190.5 MOBILE (distress and calling) 500 500A 500B 501			2173.5-2190.5	MOBILE (distress and calling) US279 500 500A 500B 501	MOBILE (distress and calling) US279 500 500A 500B 501	2182 kHz Distress and Calling
2190.5-2194 MARITIME MOBILE			2190.5-2194	MARITIME MOBILE (Telephony)	MARITIME MOBILE (Telephony)	
2194-2300 FIXED MOBILE except aero-nautical mobile (R) 484 495 502	2194-2300 FIXED MOBILE 502		2194-2495	FIXED MOBILE	FIXED LAND MOBILE MARITIME MOBILE NG19	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
2300-2498 FIXED MOBILE except aero- nautical mobile (R) BROADCASTING 503 495	2300-2495 FIXED MOBILE BROADCASTING 503					
	2495-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)		2495-2505	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz) G106	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	FCC Rules and Regulations make no provisions for licensing of standard frequency stations.
2498-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)						
2501-2502 STANDARD FREQUENCY AND TIME SIGNAL Space Research						
2502-2625 FIXED MOBILE except aero- nautical mobile (R) 484 495 504	2502-2505 STANDARD FREQUENCY AND TIME SIGNAL					
	2505-2850 FIXED MOBILE		2505-2850	FIXED MOBILE US285	FIXED LAND MOBILE MARITIME MOBILE US285	2635 kHz and 2638 kHz intership frequencies 2738 kHz intership frequency except in Gulf of Mexico 2830 kHz intership frequency in Gulf of Mexico
2625-2650 MARITIME MOBILE MARITIME RADIONAVIGATION 484						
2650-2850 FIXED MOBILE except aero- nautical mobile (R) 484 495						
2850-3025 AERONAUTICAL MOBILE (R) 501 505			2850-3025	AERONAUTICAL MOBILE (R) US283 501 505	AERONAUTICAL MOBILE (R) US283 501 505	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
3025-3155 AERONAUTICAL MOBILE (OR)			3025-3155	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangements between the FCC and the IRAC.
3155-3200 FIXED MOBILE except aeronautical mobile (R) 506 507			3155-3230	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	
3200-3230 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 503 506						
3230-3400 FIXED MOBILE except aeronautical mobile BROADCASTING 503 506 508			3230-3400	FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE except aeronautical mobile Radiolocation	
3400-3500 AERONAUTICAL MOBILE (R)			3400-3500	AERONAUTICAL MOBILE (R) US283	AERONAUTICAL MOBILE (R) US283	
3500-3800 AMATEUR 510 FIXED MOBILE except aeronautical mobile 484	3500-3750 AMATEUR 510 509 511	3500-3900 AMATEUR 510 FIXED MOBILE	3500-4000	 510	AMATEUR 510	
3800-3900 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	3750-4000 AMATEUR 510 FIXED MOBILE except aeronautical mobile (R) 511 512 514 515					

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
3900-3950 AERONAUTICAL MOBILE (OR) 513		3900-3950 AERONAUTICAL MOBILE BROADCASTING				
3950-4000 FIXED BROADCASTING		3950-4000 FIXED BROADCASTING 516				
4000-4063 FIXED MARITIME MOBILE 517 516			4000-4063	MARITIME MOBILE US236	MARITIME MOBILE US236	See Section 4.3.13 for use.
4063-4438 MARITIME MOBILE 500A 500B 520 520A 520B 518 519			4063-4438	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			4063-4065	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			4065-4146	Ship stations, telephony, duplex operation 520	Ship stations, telephony, duplex operation 520	
			4146-4152	Ship and coast stations, telephony simplex operation US82	Ship and coast stations, telephony simplex operation US82	
			4152-4172	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			4172-4181.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 500B	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 500B	
			4181.75-4186.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	
			4186.75-4202.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			4202.25-4207.25	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired frequencies)	
			4207.25-4209.25	Ship stations, digital selective call-ing 500A	Ship stations, digital selective calling 500A	
			4209.25-4219.25	Coast stations, narrow-band direct-printing telegraph data transmission systems (paired frequencies) 520B	Coast stations, narrow-band direct-printing telegraph data transmission systems (paired frequencies) 520B	
			4219.25-4221	Coast stations, digital selective call-ing	Coast stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			4221-4351	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			4351-4438	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
4438-4650 FIXED MOBILE except aeronautical mobile (R)		4438-4650 FIXED MOBILE except aero-nautical mobile	4438-4650	FIXED MOBILE except aero-nautical mobile (R)	FIXED MOBILE except aero-nautical mobile (R)	
4650-4700 AERONAUTICAL MOBILE (R)			4650-4700	AERONAUTICAL MOBILE (R) US282 US283	AERONAUTICAL MOBILE (R) US282 US283	
4700-4750 AERONAUTICAL MOBILE (OR)			4700-4750	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operations in the (OR) bands by Non-Government stations shall be authorized only by special ar-rangements between the FCC and the IRAC.
4750-4850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 503	4750-4850 FIXED MOBILE except aero-nautical mobile (R) BROADCASTING 503	4750-4850 FIXED BROADCASTING 503 Land Mobile	4750-4850	FIXED MOBILE except aero-nautical mobile (R)	FIXED MOBILE except aero-nautical mobile (R)	
4850-4995 FIXED LAND MOBILE BROADCASTING 503			4850-4995	FIXED MOBILE	FIXED	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
4995-5003 STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)			4995-5005	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz) G106	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	FCC Rules and Regulations make no provisions for the licensing of standard frequency stations.
5003-5005 STANDARD FREQUENCY AND TIME SIGNAL Space Research						
5005-5060 FIXED BROADCASTING 503			5005-5060	FIXED	FIXED	
5060-5250 FIXED Mobile except aeronautical mobile 521			5060-5450	FIXED Mobile except aeronautical mobile US212	FIXED Mobile except aeronautical mobile US212	
5250-5450 FIXED MOBILE except aeronautical mobile						
5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5480 AERONAUTICAL MOBILE (R)	5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5680	AERONAUTICAL MOBILE (R) US283 501 505	AERONAUTICAL MOBILE (R) US283 501 505	
5480-5680 AERONAUTICAL MOBILE (R) 501 505						
5680-5730 AERONAUTICAL MOBILE (OR) 501 505			5680-5730	AERONAUTICAL MOBILE (OR) 501 505	AERONAUTICAL MOBILE (OR) 501 505	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangements between the FCC and the IRAC.
5730-5900 FIXED LAND MOBILE	5730-5900 FIXED MOBILE except aeronautical mobile (R)	5730-5900 FIXED Mobile except aeronautical mobile (R)	5730-5950	FIXED MOBILE except aeronautical mobile (R)	FIXED MOBILE except aeronautical mobile (R)	
5900-5950 BROADCASTING 521A 521B 521C						

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
5950-6200 BROADCASTING			5950-6200	BROADCASTING	BROADCASTING	
6200-6525 MARITIME MOBILE 500A 500B 520 520B 522			6200-6525	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			6200-6224	Ship stations, telephony, duplex operation 520	Ship stations, telephony, duplex operation 520	
			6224-6233	Ship and coast stations, telephony, simplex operation US82	Ship and coast stations, telephony, simplex operation US82	
			6233-6261	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	
			6261-6262.75	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			6262.75-6275.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 500B	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 500B	
			6275.75-6280.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			6280.75-6284.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies)	
			6284.75-6300.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			6300.25-6311.75	Ship stations, narrow-band direct-printing telegraph and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraph and A1A Morse telegraphy, working (non-paired frequencies)	
			6311.75-6313.75	Ship stations, digital selective call-ing 500A	Ship stations, digital selective calling 500A	
			6313.75-6330.75	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			6330.75-6332.5	Coast stations, digital selective call-ing	Coast stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			6332.5-6501	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			6501-6525	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
6525-6685 AERONAUTICAL MOBILE (R)			6525-6685	AERONAUTICAL MOBILE (R) US283	AERONAUTICAL MOBILE (R) US283	
6685-6765 AERONAUTICAL MOBILE (OR)			6685-6765	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangement between the FCC and the IRAC.
6765-7000 FIXED Land Mobile 525 524			6765-7000	FIXED Mobile 524	FIXED Mobile 524	ISM 6780 ± 15 kHz
7000-7100 AMATEUR 510 AMATEUR-SATELLITE 526 527			7000-7100	 510	AMATEUR AMATEUR-SATELLITE 510	
7100-7300 BROADCASTING	7100-7300 AMATEUR 510 528	7100-7300 BROADCASTING	7100-7300	 510 528	AMATEUR 510 528	
7300-7350 BROADCASTING 521A 521B 528A			7300-8100	FIXED Mobile	FIXED Mobile	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
7350-8100 FIXED Land Mobile 529						
8100-8195 FIXED MARITIME MOBILE			8100-8195	MARITIME MOBILE US236	MARITIME MOBILE US236	See Section 4.3.13 for use.
8195-8815 MARITIME MOBILE 500A 500B 520B 529A 501			8195-8815	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			8195-8294	Ship stations, telephony, duplex operation 529A	Ship stations, telephony, duplex operation 529A	
			8294-8300	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	
			8300-8340	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	
			8340-8341.75	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			8341.75-8365.75	Ship stations, A1A Morse telegraphy, working 501	Ship stations, A1A Morse telegraphy, working 501	
			8365.75-8370.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			8370.75-8376.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			8376.25-8396.25	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 500B	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 500B	
			8396.25-8414.25	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired frequencies)	
			8414.25-8416.25	Ship stations, digital selective call-ing 500A	Ship stations, digital selective calling 500A	
			8416.25-8436.25	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			8436.25-8438	Coast stations, digital selective call-ing	Coast stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			8438-8707	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			8707-8815	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
8815-8965 AERONAUTICAL MOBILE (R)			8815-8965	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	
8965-9040 AERONAUTICAL MOBILE (OR)			8965-9040	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangements between the FCC and the IRAC.
9040-9400 FIXED			9040-9500	FIXED	FIXED	
9400-9500 BROADCASTING 521A 521B 529B						
9500-9900 BROADCASTING 530 531			9500-9900	BROADCASTING US235	BROADCASTING US235	
9900-9995 FIXED			9900-9995	FIXED	FIXED	
9995-10003 STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 501			9995-10005	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 501 G106	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 501	FCC Rules and Regulations make no provisions for the licensing of standard frequency stations.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
10003-10005 STANDARD FREQUENCY AND TIME SIGNAL Space Research 501						
10005-10100 AERONAUTICAL MOBILE (R) 501			10005-10100	AERONAUTICAL MOBILE (R) US283 501	AERONAUTICAL MOBILE (R) US283 501	
10100-10150 FIXED Amateur 510			10100-10150	 US247 510	AMATEUR US247 510	
10150-11175 FIXED Mobile except aeronautical mobile (R)			10150-11175	FIXED Mobile except aero- nautical mobile (R)	FIXED Mobile except aero- nautical mobile (R)	
11175-11275 AERONAUTICAL MOBILE (OR)			11175-11275	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special ar- rangement between the FCC and the IRAC.
11275-11400 AERONAUTICAL MOBILE (R)			11275-11400	AERONAUTICAL MOBILE (R) US283	AERONAUTICAL MOBILE (R) US283	
11400-11600 FIXED			11400-11650	FIXED	FIXED	
11600-11650 BROADCASTING 521A 521B 529B						
11650-12050 BROADCASTING 530 531			11650-12050	BROADCASTING US235	BROADCASTING US235	
12050-12100 BROADCASTING 521A 521B 529B			12050-12230	FIXED	FIXED	
12100-12230 FIXED						

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
12230-13200 MARITIME MOBILE 500A 500B 520B 529A			12230-13200	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			12230-12353	Ship stations, telephony, duplex operation 529A	Ship stations, telephony, duplex operation 529A	
			12353-12368	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	
			12368-12420	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	
			12420-12421.75	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			12421.75-12476.75	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			12476.75-12549.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 500B	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 500B	
			12549.75-12554.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			12554.75- 12559.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies)	
			12559.75- 12576.75	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired frequencies)	
			12576.75- 12578.75	Ship stations, digital selective call-ing 500A	Ship stations, digital selective calling 500A	
			12578.75- 12656.75	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			12656.75- 12658.5	Coast stations, digital selective call-ing	Coast stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			12658.5-13077	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			13077-13200	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
13200-13260 AERONAUTICAL MOBILE (OR)			13200-13260	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangement between the FCC and the IRAC.
13260-13360 AERONAUTICAL MOBILE (R)			13260-13360	AERONAUTICAL MOBILE (R) US283	AERONAUTICAL MOBILE (R) US283	
13360-13410 FIXED RADIO ASTRONOMY 533			13360-13410	RADIO ASTRONOMY 533 G115	RADIO ASTRONOMY 533	
13410-13570 FIXED Mobile except aeronautical mobile (R) 534			13410-13600	FIXED Mobile except aeronautical mobile (R) 534	FIXED 534	ISM 13560 ± 7 kHz
13570-13600 BROADCASTING 521A 521B 534A						
13600-13800 BROADCASTING 531			13600-13800	BROADCASTING US235	BROADCASTING US235	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
13800-13870 BROADCASTING 521A 521B 534A			13800-14000	FIXED Mobile except aero- nautical mobile (R)	FIXED	
13870-14000 FIXED Mobile except aeronautical mobile (R)						
14000-14250 AMATEUR 510 AMATEUR-SATELLITE			14000-14250	 510	AMATEUR AMATEUR-SATELLITE 510	
14250-14350 AMATEUR 510 535			14250-14350	 510	AMATEUR 510	
14350-14990 FIXED Mobile except aeronautical mobile (R)			14350-14990	FIXED Mobile except aero- nautical mobile (R)	FIXED	
14990-15005 STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 501			14990-15010	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 501 G106	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 501	FCC Rules and Regulations make no provisions for the licensing of standard fre- quency stations.
15005-15010 STANDARD FREQUENCY AND TIME SIGNAL Space Research						
15010-15100 AERONAUTICAL MOBILE (OR)			15010-15100	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special ar- rangement between the FCC and the IRAC.
15100-15600 BROADCASTING 531			15100-15600	BROADCASTING US235	BROADCASTING US235	
15600-15800 BROADCASTING 521A 521B 529B			15600-16360	FIXED	FIXED	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
15800-16360 FIXED 536						
16360-17410 MARITIME MOBILE 500A 500B 520B 529A			16360-17410	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			16360-16528	Ship stations, telephony, duplex operation 529A	Ship stations, telephony, duplex operation 529A	
			16528-16549	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	
			16549-16617	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	
			16617-16618.75	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			16618.75-16683.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			16683.25-16733.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 500B	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 500B	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			16733.75-16738.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	
			16738.75-16784.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies)	
			16784.75-16804.25	Ship stations, narrow-band direct-printing and A1A Morse telegraphy, working (non-paired frequencies)	Ship stations, narrow-band direct-printing and A1A Morse telegraphy, working (non-paired frequencies)	
			16804.25-16806.25	Ship stations, digital selective call-ing 500A	Ship stations, digital selective calling 500A	
			16806.25-16902.75	Coast stations, narrow-band direct-printing telegraph and data transmis-sion systems (paired fre-quencies) 520B	Coast stations, narrow-band direct-printing telegraph and data transmission systems (paired frequencies) 520B	
			16902.75-16904.5	Coast stations, digital selective call-ing	Coast stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			16904.5-17242	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			17242-17410	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
17410-17480 FIXED			17410-17550	FIXED	FIXED	
17480-17550 BROADCASTING 521A 521B 529B						
17550-17900 BROADCASTING 531			17550-17900	BROADCASTING US235	BROADCASTING US235	
17900-17970 AERONAUTICAL MOBILE (R)			17900-17970	AERONAUTICAL MOBILE (R) US283	AERONAUTICAL MOBILE (R) US283	
17970-18030 AERONAUTICAL MOBILE (OR)			17970-18030	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special arrangement between the FCC and the IRAC.
18030-18052 FIXED			18030-18068	FIXED	FIXED	
18052-18068 FIXED Space Research						

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
18068-18168 AMATEUR 510 AMATEUR-SATELLITE 538			18068-18168	 510	AMATEUR AMATEUR-SATELLITE 510	
18168-18780 FIXED Mobile except aeronautical mobile			18168-18780	FIXED Mobile	FIXED Mobile	
18780-18900 MARITIME MOBILE			18780-18900	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			18780-18825	Ship stations, telephony, duplex operation	Ship stations, telephony, duplex operation	
			18825-18846	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	
			18846-18870	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	
			18870- 18892.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies)	
			18892.75- 18898.25	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired frequencies)	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			18898.25- 18899.75	Ship stations, digital selective call-ing	Ship stations, digital selective calling	
18900-19020 BROADCASTING 521A 521B 529B			18900-19680	FIXED	FIXED	
19020-19680 FIXED						
19680-19800 MARITIME MOBILE 520B			19680-19800	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			19680.25- 19703.25	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired fre-quencies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			19703.25- 19705	Coast stations, digital selective call-ing	Coast stations, digital selective calling	
			19705-19755	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			19755-19800	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
19800-19990 FIXED			19800-19990	FIXED	FIXED	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
19990-19995 STANDARD FREQUENCY AND TIME SIGNAL Space Research 501			19990-20010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 501 G106	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 501	FCC Rules and Regulations make no provisions for the licensing of standard frequency stations.
19995-20010 STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 501						
20010-21000 FIXED Mobile			20010-21000	FIXED Mobile	FIXED	
21000-21450 AMATEUR 510 AMATEUR-SATELLITE			21000-21450	 510	AMATEUR AMATEUR-SATELLITE 510	
21450-21850 BROADCASTING 531			21450-21850	BROADCASTING US235	BROADCASTING US235	
21850-21870 FIXED 539			21850-21924	FIXED	FIXED	
21870-21924 AERONAUTICAL FIXED						
21924-22000 AERONAUTICAL MOBILE (R)			21924-22000	AERONAUTICAL MOBILE (R)	AERONAUTICAL MOBILE (R)	
22000-22855 MARITIME MOBILE 520B 540			22000-22855	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			22000-22159	Ship stations, telephony, duplex operation	Ship stations, telephony, duplex operation	
			22159-22180	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			22180-22240	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile and special transmission systems US296	
			22240-22241.75	Ship stations, oceanographic data transmission	Ship stations, oceanographic data transmission	
			22241.75-22279.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			22279.25-22284.25	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	
			22284.25-22351.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems, working (paired frequencies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems, working (paired frequen-cies)	
			22351.75-22374.25	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired fre-quencies)	Ship stations, narrow-band direct-printing telegraphy and A1A Morse teleg-raphy, working (non-paired frequencies)	
			22374.25-22375.75	Ship stations, digital selective call-ing	Ship stations, digital selective calling	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	Region 2 kHz	Region 3 kHz	Band kHz	Government Allocation	Non-Government Allocation	Remarks
			22375.75-22443.75	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			22443.75-22445.5	Coast stations, digital selective call-ing	Coast stations, digital selective calling	
			22445.5-22696	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission and direct-printing telegraphy systems	
			22696-22855	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
22855-23000 FIXED 540			22855-23000	FIXED	FIXED	
23000-23200 FIXED Mobile except aeronautical mobile (R) 540			23000-23200	FIXED Mobile except aero-nautical mobile (R)	FIXED	
23200-23350 AERONAUTICAL FIXED AERONAUTICAL MOBILE (OR)			23200-23350	AERONAUTICAL MOBILE (OR)	AERONAUTICAL MOBILE (OR)	Operation in the (OR) bands by Non-Government stations shall be authorized only by special ar-rangement between the FCC and the IRAC.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
23350-24000 FIXED MOBILE except aeronautical mobile 541 542			23350-24890	FIXED MOBILE except aero- nautical mobile	FIXED	
24000-24890 FIXED LAND MOBILE 542						
24890-24990 AMATEUR 510 AMATEUR-SATELLITE 542			24890-24990	 510	AMATEUR AMATEUR-SATELLITE 510	
24990-25005 STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)			24990-25010	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz) G106	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	
25005-25010 STANDARD FREQUENCY AND TIME SIGNAL Space Research						
25010-25070 FIXED MOBILE except aeronautical mobile			25010-25070		LAND MOBILE NG112	25.02-25.06 kHz Industrial
25070-25210 MARITIME MOBILE			25070-25210	MARITIME MOBILE US281	MARITIME MOBILE US281 NG112	See Annex H for Maritime Mobile channel use.
			25070-25100	Ship stations, telephony, duplex operation	Ship stations, telephony, duplex operation	
			25100-25121	Ship and Coast stations, telephony, simplex operation US82	Ship and Coast stations, telephony, simplex operation US82	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			25121-25161.25	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	Ship stations, wide-band telegraphy, facsimile, and special transmission systems US296	
			25161.25-25171.25	Ship stations, A1A Morse telegraphy, working	Ship stations, A1A Morse telegraphy, working	
			25171.25-25172.75	Ship stations, A1A Morse telegraphy, calling	Ship stations, A1A Morse telegraphy, calling	
			25172.75-25192.75	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies)	
			25192.75-25208.25	Ship stations, narrow-band direct-printing telegraphy and data transmis-sion systems (non-paired frequencies)	Ship stations, narrow-band direct-printing telegraphy and data transmission systems (non-paired frequencies)	
			25208.25-25210	Ship stations, digital selective call-ing	Ship stations, digital selective calling	
25210-25550 FIXED MOBILE except aeronautical mobile			25210-25330		LAND MOBILE	25.12-25.32 kHz Industrial
			25330-25550	FIXED MOBILE except aero-nautical mobile		

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
25550-25670 RADIO ASTRONOMY 545			25550-25670	RADIO ASTRONOMY US74 545	RADIO ASTRONOMY US74 545	
25670-26100 BROADCASTING			25670-26100	BROADCASTING US25	BROADCASTING US25	International broadcasting
26100-26175 MARITIME MOBILE 520B			26100-26175	MARITIME MOBILE	MARITIME MOBILE	See Annex H for Maritime Mobile channel use.
			26100.25- 26120.75	Coast stations, narrow-band direct-printing telegraphy and data transmis-sion systems (paired frequen-cies) 520B	Coast stations, narrow-band direct-printing telegraphy and data transmission systems (paired frequencies) 520B	
			26120.75- 26122.5	Coast stations, digital selective call-ing	Coast stations, digital selective calling	
			26122.5-26145	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	Coast stations, wide-band and A1A Morse telegraphy, facsimile, special and data transmission systems and direct-printing telegraphy systems	
			26145-26175	Coast stations, telephony, duplex operation	Coast stations, telephony, duplex operation	
26175-27500 FIXED MOBILE except aeronautical mobile 546			26175-26480		LAND MOBILE	
			26480-26950	FIXED MOBILE except aero- nautical mobile US10	 US10	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 kHz	**Region 2 kHz**	**Region 3 kHz**	**Band kHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			26950-26960	546	FIXED 546	26.955 kHz International fixed public
			26960-27230	546	MOBILE except aero- nautical mobile 546	ISM 27120 ± 160 kHz
			27230-27410	546	FIXED MOBILE except aero- nautical mobile 546	ISM 27120 ± 160 kHz Personal Public Safety Industrial Land Transportation

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
27.5-28 METEOROLOGICAL AIDS FIXED MOBILE			27.41-27.54		LAND MOBILE	Industrial
			27.54-28	FIXED MOBILE US298	 US298	
28-29.7 AMATEUR AMATEUR-SATELLITE			28-29.7		AMATEUR AMATEUR-SATELLITE	
29.7-30.005 FIXED MOBILE			29.7-29.8		LAND MOBILE	Industrial
			29.8-29.89		FIXED	29.81-29.88 MHz Aeronautical fixed International fixed public
			29.89-29.91	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
			29.91-30		FIXED	29.92-29.99 MHz Aeronautical fixed International fixed public
30.005-30.01 SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH			30-30.56	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
30.01-37.5 FIXED MOBILE			30.56-32		LAND MOBILE NG124	Industrial Land Transportation Public Safety

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	Region 2 MHz	Region 3 MHz	Band MHz	Government Allocation	Non-Government Allocation	Remarks
			32-33	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
			33-34		LAND MOBILE NG124	33.00-33.01 MHz Land Transpor-tation 33.01-33.11 MHz Public Safety 33.11-33.41 MHz Industrial 33.41-34 MHz Public Safety
			34-35	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
			35-36		LAND MOBILE NG124	35.00-35.19 MHz Industrial 35.19-35.69 MHz Domestic Public Industrial Public Safety 35.69-36.00 MHz Industrial
			36-37	FIXED MOBILE US220	 US220	See Section 4.3.6 of the NTIA Manual for Channeling Plan.
			37-37.5		LAND MOBILE NG124	37.00-37.01 MHz Industrial 37.01-37.43 MHz Public Safety 37.43-37.5 MHz Industrial

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
37.5-38.25 FIXED MOBILE Radio Astronomy 547			37.5-38	Radio Astronomy 547	LAND MOBILE Radio Astronomy 547 NG59 NG124	37.50-37.89 MHz Industrial 37.89-38.00 Public Safety
			38-38.25	FIXED MOBILE RADIO ASTRONOMY US81 547	RADIO ASTRONOMY US81 547	See Section 4.3.6 of the NTIA Manual for Channeling Plan.
38.25-39.986 FIXED MOBILE			38.25-39	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
			39-40		LAND MOBILE NG124	Public Safety
39.986-40.02 FIXED MOBILE Space Research			40-42	FIXED MOBILE US210 US220 548	 US210 US220 548	See Section 4.3.6 of the NTIA Manual for Channeling Plan. ISM 40.68 ± 0.02 MHz
40.02-40.98 FIXED MOBILE 548						
40.98-41.015 FIXED MOBILE Space Research 549 550						
41.015-44 FIXED MOBILE 549 550			42-46.6		LAND MOBILE NG124 NG141	42.00-42.95 MHz Public Safety 42.95-43.19 MHz Industrial 43.19-43.69 MHz Domestic Public Industrial Public Safety 43.69-44.61 MHz Land Transportation 44.61-46.60 MHz Public Safety

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
44-47 FIXED MOBILE 552						
			46.6-47	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
47-68 BROADCASTING 553 554 555 559 561	47-50 FIXED MOBILE	47-50 FIXED MOBILE BROADCASTING	47-49.6		LAND MOBILE NG124	47.00-47.43 MHz Public safety 47.43-47.69 MHz Public Safety Industrial 47.69-49.60 Industrial
			49.6-50	FIXED MOBILE		See Section 4.3.6 of the NTIA Manual for Channeling Plan.
	50-54 AMATEUR 556 557 558 560		50-54		AMATEUR	
	54-68 BROADCASTING Fixed Mobile 562	54-68 FIXED MOBILE BROADCASTING	54-72		BROADCASTING NG128 NG149	Television bro-adcasting
68-74.8 FIXED MOBILE except aero- nautical mobile 564 565 567 568 571	68-72 BROADCASTING Fixed Mobile 563	68-74.8 FIXED MOBILE 566 568 571				
	72-73 FIXED MOBILE		72-73		FIXED MOBILE NG3 NG49 NG56	72.02-72.98 MHz Operational fixed

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL

<table>
<tr><th>Region 1
MHz</th><th>Region 2
MHz</th><th>Region 3
MHz</th></tr>
<tr><td rowspan="2"></td><td>73-74.6
RADIO ASTRONOMY
570</td><td rowspan="2"></td></tr>
<tr><td>74.6-74.8
FIXED
MOBILE</td></tr>
<tr><td colspan="3">74.8-75.2
AERONAUTICAL RADIONAVIGATION

572 572A</td></tr>
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FIXED
MOBILE except aero-
nautical mobile

565 571 575 578</td><td colspan="2">75.2-75.4
FIXED
MOBILE

571</td></tr>
<tr><td>75.4-76
FIXED
MOBILE</td><td rowspan="2">75.4-87
FIXED
MOBILE

573 574 577 579</td></tr>
<tr><td rowspan="2">76-88
BROADCASTING
Fixed
Mobile

576</td></tr>
<tr><td rowspan="2">87.5-100
BROADCASTING

581</td><td rowspan="2">87-100
FIXED
MOBILE
BROADCASTING

580</td></tr>
<tr><td>88-100
BROADCASTING</td></tr>
<tr><td colspan="3">100-108
BROADCASTING

584 585 586 587 588 589</td></tr>
<tr><td colspan="3">108-117.975
AERONAUTICAL RADIONAVIGATION 590A</td></tr>
</table>

UNITED STATES

Band MHz	Government Allocation	Non-Government Allocation	Remarks
73-74.6	RADIO ASTRONOMY US74	RADIO ASTRONOMY US74	
74.6-74.8	FIXED MOBILE US273 572	FIXED MOBILE US273 572	
74.8-75.2	AERONAUTICAL RADIONAVIGATION 572	AERONAUTICAL RADIONAVIGATION 572	75 MHz Marker beacons.
75.2-75.4	FIXED MOBILE US273 572	FIXED MOBILE US273 572	
75.4-76		FIXED MOBILE NG3 NG49 NG56	75.42-75.98 MHz Operational Fixed
76-88	576	BROADCASTING 576 NG128 NG129 NG149	Television bro-adcasting
88-108	US93	BROADCASTING US93 NG2 NG128 NG129	FM broadcasting
108-117.975	AERONAUTICAL RADIONAVIGATION G126 US93	AERONAUTICAL RADIONAVIGATION US93	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
117.975-136 AERONAUTICAL MOBILE (R) 501 591 592 593 594			117.975- 121.9375	AERONAUTICAL MOBILE (R) US26 US28 501 591 592 593	AERONAUTICAL MOBILE (R) US26 US28 501 591 592 593	
			121.9375- 123.0875	 US30 US31 US33 US80 US102 US213 591	AERONAUTICAL MO-BILE US30 US31 US33 US80 US102 US213 591	Private aircraft
			123.0875- 123.5875	AERONAUTICAL MO-BILE US32 US33 US112 591 593	AERONAUTICAL MO-BILE US32 US33 US112 591 593	123.1 MHz for SAR Scene-of Action commu-nications (See Section 7.5.4 of the NTIA Manual)
			123.5875- 128.8125	AERONAUTICAL MOBILE (R) US26 591	AERONAUTICAL MOBILE (R) US26 591	
			128.8125- 132.0125	 591	AERONAUTICAL MOBILE (R) 591	
			132.0125- 136.00	AERONAUTICAL MOBILE (R) US26 591	AERONAUTICAL MOBILE (R) US26 591	
136-137 AERONAUTICAL MOBILE (R) Fixed Mobile except aeronautical mobile (R) 591 594A 595			136-137	 US244 591	AERONAUTICAL MOBILE (R) US244 591	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
137-137.025 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 599B SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile(R) 596 597 598 599 599A			137- 137.025	SPACE OPERATION (space-to-Earth) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US319 US320 599B US318 599A	SPACE OPERATION (space-to-Earth) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US319 US320 599B US318 599A	
137.025-137.175 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 599B Mobile except aeronautical mobile (R) 596 597 598 599 599A			137.025- 137.175	SPACE OPERATION (space-to-Earth) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-earth) Mobile-Satellite (space-to-Earth) US319 US320 599B US318 599A	SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) US319 US320 599B US318 599A	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
137.175-137.825 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 599B SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 596 597 598 599 599A			137.175- 137.825	SPACE OPERATION (space-to-Earth) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US319 US320 599B US318 599A	SPACE OPERATION (space-to-Earth) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US319 US320 599B US318 599A	
137.825-138 SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 599B Mobile except aeronautical mobile (R) 596 597 598 599 599A			137.825-138	SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) US319 US320 599B US318 599A	SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) US319 US320 599B US318 599A	
138-143.6 AERONAUTICAL MOBILE (OR) 600 601 602 604	138-143.6 FIXED MOBILE /RADIOLOCATION/ Space Research (space-to-Earth)	138-143.6 FIXED MOBILE Space Research (space-to-Earth) 599 603	138-144	FIXED MOBILE US10 G30	 US10	
143.6-143.65 AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 601 602 604	143.6-143.65 FIXED MOBILE SPACE RESEARCH (space-to-Earth) /RADIOLOCATION/	143.6-143.65 FIXED MOBILE SPACE RESEARCH (space-to-Earth) 599 603				

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
143.65-144 AERONAUTICAL MOBILE (OR) 600 601 602 604	143.65-144 FIXED MOBILE /RADIOLOCATION/ Space Research (space-to-Earth)	143.65-144 FIXED MOBILE Space Research (space-to-Earth) 599 603				
144-146 AMATEUR 510 AMATEUR-SATELLITE 605 606			144-146	510	AMATEUR AMATEUR-SATELLITE 510	
146-148 FIXED MOBILE except aeronautical mobile (R)	146-148 AMATEUR 607	146-148 AMATEUR FIXED MOBILE 607	146-148		AMATEUR	
148-149.9 FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) MOBILE-SATELLITE (space-to-Earth) 599B 608 608A 608C	148-149.9 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 599B 608 608A 608C		148-149.9	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 599B US319 US320 US323 US325 608 608A US10 G30	MOBILE-SATELLITE (Earth-to-space) 599B US319 US320 US323 US325 608 608A US10	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
149.9-150.05 LAND MOBILE-SATELLITE (Earth-to-space) 599B 609B RADIONAVIGATION-SATELLITE 608B 609 609A			149.9- 150.05	RADIONAVIGATION SATELLITE MOBILE SATELLITE (Earth-to-space) 599B US319 US322 608B 609A	RADIONAVIGATION SATELLITE MOBILE SATELLITE (Earth-to-space) 599B US319 US322 608B 609A	
150.05-153 FIXED MOBILE except aero- nautical mobile RADIO ASTRONOMY 610	150.05-156.7625 FIXED MOBILE 611 613 613A		150.05- 150.8	FIXED MOBILE US216 G30	 US216	

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	Region 2 MHz	Region 3 MHz	Band MHz	Government Allocation	Non-Government Allocation	Remarks
			150.8- 156.2475	US216 613	LAND MOBILE US216 613 NG4 NG51 NG112 NG117 NG124 NG148	150.80-150.98 MHz Land Transportation 150.98-151.4825 MHz Public Safety 151.4825- 151.4975 MHz Industrial 151.4975-152.000 MHz Industrial Public Safety 152.00-152.255 MHz Domestic Public 152.255-152.465 MHz Land Transportation 152.465-152.495 MHz Industrial 152.495-152.855 MHz Domestic Public 152.885-153.7325 MHz Industrial 153.7325- 154.4825 MHz Industrial Public Safety 154.2 MHz Earth Tele- command 154.4825- 154.6375 MHz Industrial 154.6375- 156.2475 MHz Public Safety
153-154 FIXED MOBILE except aero- nautical mobile (R) Meteorological Aids						
154-156.7625 FIXED MOBILE except aero- nautical mobile (R) 613 613A						
			156.2475- 157.0375	US77 US106 US107 US266 613	MARITIME MOBILE US77 US106 US107 US266 613 NG117	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
156.7625-156.8375 MARITIME MOBILE (distress and calling) 501 613						
156.8375-174 FIXED MOBILE except aero- nautical mobile 613 613B 615	156.8375-174 FIXED MOBILE 613 616 617 618					
			157.0375- 157.1875	MARITIME MOBILE US214 US266 613 G109	US214 US266 613	
			157.1875- 157.45	US223 US266 613	MARITIME MOBILE LAND MOBILE US223 US266 613 NG111 NG154	
			157.45- 161.575	US266 613	LAND MOBILE US266 613 NG6 NG28 NG70 NG111 NG112 NG124 NG148	157.45-157.725 MHz Land Transportation 157.725-157.755 MHz Industrial 157.755-158.115 MHz Domestic Public 158.115-158.475 MHz Industrial 158.715-159.480 Public Safety 159.480-161.575 MHz Land Transporta- tion
			161.575- 161.625	US77 613	MARITIME MOBILE US77 613 NG6 NG17	
			161.625- 161.775	613	LAND MOBILE 613 NG6	Remote pickup broadcast

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			161.775- 162.0125	US266 613	MARITIME MOBILE LAND MOBILE US266 613 NG6 NG154	
			162.0125- 173.2	FIXED MOBILE US8 US11 US13 US216 US223 US300 US312 613 G5	US8 US11 US13 US216 US223 US300 US312 613	The Channeling Plan for assignments in this band is shown in Section 4.3.7 of the NTIA Manual.
			173.2-173.4		FIXED Land Mobile NG124	Industrial Public Safety
			173.4-174	FIXED MOBILE G5		The Channeling Plan of assignments in this band is shown in Section 4.3.7 of the NTIA Manual.
174-223 BROADCASTING 621 623 628 629	174-216 BROADCASTING Fixed Mobile 620	174-223 FIXED MOBILE BROADCASTING 619 624 625 626 630	174-216		BROADCASTING NG115 NG128 NG149	Television broadcasting
	216-220 FIXED MARITIME MOBILE Radiolocation 627 627A		216-220	MARITIME MOBILE Aeronautical Mobile Fixed Land Mobile Radiolocation US210 US229 US274 US317 627 G2	MARITIME MOBILE Aeronautical Mobile Fixed Land Mobile US210 US229 US274 US317 627 NG152	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
	220-225 AMATEUR FIXED MOBILE Radiolocation 627		220-222	LAND MOBILE Radiolocation 627 G2	LAND MOBILE 627	The Channeling Plan for Land Mobile assignments in this band is shown in Section 4.3.15 of the NTIA Manual.
			222-225	Radiolocation 627 G2	AMATEUR 627	
223-230 BROADCASTING Fixed Mobile 622 628 629 631 632 635		223-230 FIXED MOBILE BROADCASTING AERONAUTICAL RADIONAVIGATION Radiolocation 636 637	225-235	FIXED MOBILE G27		The FAA provides air traffic control communications to the military services on selected frequencies in this band.
	225-235 FIXED MOBILE					
230-235 FIXED MOBILE 629 632 635 638 639		230-235 FIXED MOBILE AERONAUTICAL RADIONAVIGATION 637				
235-267 FIXED MOBILE 501 592 635 640 641 642			235-267	FIXED MOBILE 501 592 642 G27 G100	 501 592 642	The FAA provides air traffic control communications to the military services on selected frequencies in this band.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
267-272 FIXED MOBILE Space Operation (space-to-Earth) 641 643			267-322	FIXED MOBILE		The FAA provides air traffic control communications to the military services on selected frequencies in this band.
272-273 SPACE OPERATION (space-to-Earth) FIXED MOBILE 641						
273-312 FIXED MOBILE 641						
312-315 FIXED MOBILE Mobile-Satellite (Earth-to-space) 641 641A						
315-322 FIXED MOBILE 641				G27 G100		
322-328.6 FIXED MOBILE RADIO ASTRONOMY 644			322-328.6	FIXED MOBILE 644 G27	644	The FAA provides air traffic control communications to the military services on selected frequencies in this band.
328.6-335.4 AERONAUTICAL RADIONAVIGATION 645 645A			328.6-335.4	AERONAUTICAL RADIONAVIGATION 645	AERONAUTICAL RADIONAVIGATION 645	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
335.4-387 FIXED MOBILE 641			335.4-399.9	FIXED MOBILE G27 G100		The FAA provides air traffic control communications to the military services on selected frequencies in this band.
387-390 FIXED MOBILE Mobile-Satellite (space-to-Earth) 641 641A						
390-399.9 FIXED MOBILE 641						
399.9-400.05 RADIONAVIGATION-SATELLITE 609 645B			399.9-400.05	399.9-400.05 RADIONAVIGATION-SATELLITE MOBILE-SATELLITE (Earth-to-space) US319 US326 645B	399.9-400.05 RADIONAVIGATION-SATELLITE MOBILE-SATELLITE (Earth-to-space) US319 US326 645B	
400.05-400.15 STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 646 647			400.05-400.15	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 646	STANDARD FREQUENCY AND TIME SIGNAL-SATELLITE (400.1 MHz) 646	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
400.15-401 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 599B SPACE RESEARCH (space-to-Earth) 647A Space Operation (space-to-Earth) 647 647B			400.15-401	METEOROLOGICAL AIDS (radio-sonde) METEOROLOGICAL SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) 647A MOBILE-SATELLITE (space-to-Earth) 599B US319 US320 US324 Space Operation (space-to-Earth) 647 647B US70	METEOROLOGICAL AIDS (radio-sonde) SPACE RESEARCH (space-to-Earth) 647A MOBILE-SATELLITE (space-to-Earth) 599B US319 US320 US324 Space Operation (space-to-Earth) 647 647B US70	SATELLITE COMMUNICATION (25)
401-402 METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) Earth Exploration-Satellite (Earth-to-space) Fixed Meteorological-Satellite (Earth-to-space) Mobile except aeronautical mobile			401-402	METEOROLOGICAL AIDS (Radiosonde) SPACE OPERATION (space-to-Earth) Earth Explora-tion-Satellite (Earth-to-space) Meteorological-Satellite (Earth-to-space) US70	METEOROLOGICAL AIDS (Radiosonde) SPACE OPERATION (space-to-Earth) Earth Explora-tion-Satellite (Earth-to-space) Meteorological-Satellite (Earth-to-space) US70	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
402-403 METEOROLOGICAL AIDS Earth Exploration-Satellite (Earth-to-space) Fixed Meteorological-Satellite (Earth-to-space) Mobile except aeronautical mobile			402-403	METEOROLOGICAL AIDS (Radiosonde) Earth Exploration-Satellite (Earth-to-space) Meteorological-Satellite (Earth-to-space) US70	METEOROLOGICAL AIDS (Radiosonde) Earth Exploration-Satellite (Earth-to-space) Meteorological-Satellite (Earth-to-space) US70	
403-406 METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile 648			403-406	METEOROLOGICAL AIDS (Radiosonde) US70 G6	METEOROLOGICAL AIDS (Radiosonde) US70	
406-406.1 MOBILE-SATELLITE (Earth-to-space) 649 649A			406-406.1	MOBILE-SATELLITE (Earth-to-space) 649 649A	MOBILE-SATELLITE (Earth-to-space) 649 649A	Satellite Emergency Position Indicating Radiobeacon (EPIRB).
406.1-410 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 648 650			406.1-410	FIXED MOBILE RADIO ASTRONOMY US13 US74 US117 G5 G6	RADIO ASTRONOMY US13 US74 US117	The Channeling Plan for assignments in these bands are shown in Section 4.3.9 of the NTIA Manual.
410-420 FIXED MOBILE except aeronautical mobile Space Research (space-to-space) 651A			410-420	FIXED MOBILE Space Research (space-to-space) US13 G5 651A	 US13	
420-430 FIXED MOBILE except aeronautical mobile Radiolocation 651 652 653			420-450	RADIOLOCATION US7 US87 US217 US228 US230 664 668 G2 G8	Amateur US7 US87 US217 US228 US230 664 668 NG135	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
430-440 AMATEUR RADIOLOCATION 653 654 655 656 657 658 659 661 662 663 664 665	430-440 RADIOLOCATION Amateur 653 658 659 660 660A 663 664					
440-450 FIXED MOBILE except aeronautical mobile Radiolocation 651 652 653 666 667 668						
450-460 FIXED MOBILE 653 668 669 670			450-460	US87 668 669 670	LAND MOBILE US87 668 669 670 NG12 NG112 NG124 NG148	450-451 MHz Remote pickup broadcast 451-454 MHz Public Safety Industrial Land Transportation 454-455 MHz Domestic Public 455-456 MHz Remote pickup broadcast 456-459 MHz Public Safety Industrial Land Transportation 459-460 MHz Domestic Public

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
460-470 FIXED MOBILE Meteorological-Satellite (space-to-Earth) 669 670 671 672			460-470	Meteorological-Satellite (space-to-Earth) US201 US209 US216 669 670 671	LAND MOBILE US201 US209 US216 669 670 671 NG124	460-462.5375 MHz Public Safety Industrial Land Transportation 462.5375-462.7375 MHz Personal 462.7375-467.5375 MHz Public Safety Industrial Land Transportation 467.5375-467.7375 MHz Personal 467.7375-470 MHz Public Safety Industrial Land Transportation
470-790 BROADCASTING 676 677A 683 684 685 686 686A 687 689 693 694	470-512 BROADCASTING Fixed Mobile 674 675	470-585 FIXED MOBILE BROADCASTING 673 677 679	470-512		BROADCASTING LAND MOBILE NG66 NG114 NG127 NG128 NG149	Broadcasting Public Safety Industrial Land Transportation Domestic Public
	512-608 BROADCASTING 678		512-608		BROADCASTING NG128 NG149	Television broadcasting
		585-610 FIXED MOBILE BROADCASTING RADIONAVIGATION 688 689 690				

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
	608-614 RADIO ASTRONOMY Mobile-Satellite except aeronautical mobile-satellite (Earth-to-space)		608-614	RADIO ASTRONOMY US74 US246	RADIO ASTRONOMY US74 US246	
		610-890 FIXED MOBILE BROADCASTING 677 688 689 690 691 693 701				
	614-806 BROADCASTING Fixed Mobile 675 692 692A 693		614-806		BROADCASTING NG30 NG43 NG128 NG149	
790-862 FIXED BROADCASTING 694 695 695A 696 697 700B 702	806-890 FIXED MOBILE BROADCASTING 692A 700 700A		806-902	US116 US268 704A G2	LAND MOBILE US116 US268 704A NG30 NG43 NG63 NG151	806-821 MHz Conventional and Trunked Systems 821-824 MHz Public Safety 824-825 MHz Cellular 825-849 MHz Cellular 849-851 MHz Reserve 851-866 MHz Conventional and Trunked Systems 866-869 MHz Public Safety 869-870 MHz Cellular 890-894 MHz Cellular 894-896 MHz Reserve 896-901 MHz Private Land Mobile 901-902 MHz Reserve
862-890 FIXED MOBILE except aeronautical mobile BROADCASTING 703 700B 704						
890-942 FIXED MOBILE except aeronautical mobile BROADCASTING 703 Radiolocation 704	890-902 FIXED MOBILE except aeronautical mobile Radiolocation 700A 704A 705	890-942 FIXED MOBILE BROADCASTING Radiolocation 706				

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
	902-928 FIXED Amateur Mobile except aero- nautical mobile Radiolocation 705 707 707A		902-928	RADIOLOCATION US215 US218 US267 US275 707 G11 G59	 US215 US218 US267 US275 707	ISM 915 ± 13 MHz
	928-942 FIXED MOBILE except aero- nautical mobile Radiolocation 705		928-929	 US116 US215 US268 G2	FIXED US116 US215 US268 NG120	
			929-932	 US116 US215 US268 G2	LAND MOBILE US116 US215 US268 NG120	
			932-935	FIXED US215 US268 G2	FIXED US215 US268 NG120	The Channeling Plan for assign-ments in this band is shown in Section 4.3.14 of the NTIA Manual.
			935-940	 US116 US215 US268 G2	LAND MOBILE US116 US215 US268 N120	
			940-941	 US116 US268 G2	MOBILE US116 US268	
			941-944	FIXED US268 US301 US302 G2	FIXED US268 US301 US302 NG64 NG120	The Channeling Plan for assign-ments in this band is shown in Section 4.3.14 of the NTIA Manual.
942-960 FIXED MOBILE except aero- nautical mobile BROADCASTING 703 704	942-960 FIXED MOBILE	942-960 FIXED MOBILE BROADCASTING 701	944-960		FIXED NG64 NG120	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
960-1215 AERONAUTICAL RADIONAVIGATION 709			960-1215	AERONAUTICAL RADIONAVIGATION US224 709	AERONAUTICAL RADIONAVIGATION US224 709	
1215-1240 RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 710 711 712 712A 713			1215-1240	RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 713 G56	 713	
1240-1260 RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 710 Amateur 711 712 712A 713 714			1240-1300	RADIOLOCATION 664 713 714 G56	Amateur 664 713 714	
1260-1300 RADIOLOCATION Amateur 664 711 712 712A 713 714						
1300-1350 AERONAUTICAL RADIONAVIGATION 717 Radiolocation 715 716 718			1300-1350	AERONAUTICAL RADIONAVIGATION Radiolocation 717 718 G2	AERONAUTICAL RADIONAVIGATION 717 718	
1350-1400 FIXED MOBILE RADIOLOCATION 718 719 720	1350-1400 RADIOLOCATION 714 718 720		1350-1400	FIXED MOBILE RADIOLOCATION US311 714 718 720 G2 G27 G114	 US311 714 718 720	
1400-1427 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 721 722			1400-1427	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246 722	EARTH EXPLORATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246 722	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1427-1429 SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 722			1427-1429	FIXED MOBILE except aero- nautical mobile SPACE OPERATION (Earth-to-space) 722 G30	SPACE OPERATION (Earth-to-space) Land Mobile (Telemetering and telecommand) Fixed (Telemetering) 722	
1429-1452 FIXED MOBILE except aeronautical mobile 722 723B	1429-1452 FIXED MOBILE 723 722		1429-1435	FIXED MOBILE 722 G30	Land Mobile (Telemetering and telecommand) Fixed (Telemetering) 722	
1452-1492 FIXED MOBILE except aeronautical mobile BROADCASTING 722A 722B BROADCASTING-SATELLITE 722A 722B 722 723B	1452-1492 FIXED MOBILE 723 BROADCASTING 722A 722B BROADCASTING-SATELLITE 722A 722B 722 722C		1435-1525	MOBILE (Aeronautical telemetering) US78 722	MOBILE (Aeronautical telemetering) US78 722	
1492-1525 FIXED MOBILE except aero- nautical mobile 722 723B	1492-1525 FIXED MOBILE 723 MOBILE-SATELLITE (space-to-Earth) 722 722C 723C	1492-1525 FIXED MOBILE 723 722				

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1525-1530 SPACE OPERATION (space-to-Earth) FIXED MARITIME MOBILE-SAT- ELLITE (space-to-Earth) Earth Exploration-Satellite Land Mobile-Satellite (space-to-Earth) 726B Mobile except aero-nautical mobile 724 722 723B 725 726A 726D	1525-1530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile 723 722 723A 726A 726D	1525-1530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Mobile 723 724 722 726A 726D	1525-1530	MOBILE-SATELLITE (Space-to-Earth) Mobile (Aero-nautical tele-metry) 722 726A US78	MOBILE-SATELLITE (Space-to-Earth) Mobile (Aero-nautical tele-metry) 722 726A US78	
1530-1533 SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) LAND MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except aero-nautical mobile 722 723B 726A 726D	1530-1533 SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) LAND MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile 723 722 726A 726C 726D		1530-1535	MARITIME MOBILE-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Mobile (Aeronautical telemetering) US78 US272 US315 722 726A	MARITIME MOBILE-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Mobile (Aeronautical telemetering) US78 US272 US315 722 726A	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1533-1535 SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile except aero-nautical mobile Land Mobile-Satellite (space-to-Earth) 726B 722 723B 726A 726D	1533-1535 SPACE OPERATION (space-to-Earth) MARITIME MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite Fixed Mobile 723 Land Mobile-Satellite (space-to-Earth) 726B 722 726A 726C 726D					
1535-1544 MARITIME MOBILE-SATELLITE (space-to-Earth) Land Mobile-Satellite (space-to-Earth) 726B 722 726A 726C 726D 727			1535-1544	MARITIME MOBILE-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US315 722 726A	MARITIME MOBILE-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US315 722 726A	
1544-1545 MOBILE-SATELLITE (space-to-Earth) 722 726D 727 727A			1544-1545	MOBILE-SATELLITE (space-to-Earth) 722 727A	MOBILE-SATELLITE (space-to-Earth) 722 727A	
1545-1555 AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) 722 726A 726D 727 729 729A 730			1545-1549.5	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) Mobile-Satellite (space-to-Earth) US308 US309 722 726A	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) Mobile-Satellite (space-to-Earth) US308 US309 722 726A	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
			1549.5-1558.5	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US308 US309 722 726A	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US308 US309 722 726A	
1555-1559 LAND MOBILE-SATELLITE (space-to-Earth) 722 726A 726D 727 730 730A 730B 730C			1558.5-1559	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) US308 US309 722 726A	AERONAUTICAL MOBILE-SATELLITE (R) (space-to-Earth) US308 US309 722 726A	
1559-1610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) 722 727 730 731			1559-1610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) G126 US208 US260 722	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) US208 US260 722	
1610-1610.6 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION 722 727 730 731 731E 732 733 733A 733B 733E 733F	1610-1610.6 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION RADIODETERMINA-TION-SATELLITE (Earth-to-space) 722 731E 732 733 733A 733C 733D 733E	1610-1610.6 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION Radiodetermina-tion-Satellite(Earth-to-space) 722 727 730 731E 732 733 733A 733B 733E	1610-1610.6	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US208 US260 US319 722 731E 732 733 733A 733E	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US208 US260 US319 722 731E 732 733 733A 733E	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1610.6-1613.8 MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 722 727 730 731 731E 732 733 733A 733B 733E 733F 734	1610.6-1613.8 MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINA-TION-SATELLITE (Earth-to-space) 722 731E 732 733 733A 733C 733D 733E 734	1610.6-1613.8 MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermina-tion-Satellite (Earth-to-space) 722 727 730 731E 732 733 733A 733B 733E 734	1610.6-1613.8	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) RADIO-ASTRONOMY US208 US260 US319 722 731E 732 733 733A 733E 734	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) RADIO-ASTRONOMY US208 US260 US319 722 731E 732 733 733A 733E 734	
1613.8-1626.5 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION Mobile Satellite (space-to-Earth) 722 727 730 731 731E 731F 732 733 733A 733B 733E 733F	1613.8-1626.5 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION RADIODETERMINA-TION-SATELLITE (Earth-to-space) Mobile Satellite (space-to-Earth) 722 731E 731F 732 733 733A 733C 733D 733E	1613.8-1626.5 MOBILE-SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION Radiodetermina-tion-Satellite (Earth-to-space) Mobile Satellite (space-to-Earth) 722 727 730 731E 731F 732 733 733A 733B 733E	1613.8-1626.5	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Mobile-Satellite (space-to-Earth) US208 US260 US319 722 731E 731F 732 733 733E	AERONAUTICAL RADIONAVIGATION RADIODETERMINATION SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Mobile-Satellite (space-to-Earth) US208 US260 US319 722 731E 731F 732 733 733E	
1626.5-1631.5 MARITIME MOBILE-SATELLITE (Earth-to-space) Land Mobile-Satellite (Earth-to-space) 726B 722 726A 726D 727 730	1626.5-1631.5 MOBILE-SATELLITE (Earth-to-space) 722 726A 726C 726D 727 730		1626.5-1645.5	MARITIME MOBILE-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US315 722 726A	MARITIME MOBILE-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US315 722 726A	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1631.5-1634.5 MARITIME MOBILE-SATELLITE (Earth-to-space) LAND MOBILE-SATELLITE (Earth-to-space) 722 726A 726C 726D 727 730 734A						
1634.5-1645.5 MARITIME MOBILE-SATELLITE (Earth-to-space) Land Mobile-Satellite (Earth-to-space) 726B 722 726A 726C 726D 727 730						
1645.5-1646.5 MOBILE-SATELLITE (Earth-to-space) 722 726D 734B			1645.5-1646.5	MOBILE-SATELLITE (Earth-to-space) 722 734B	MOBILE-SATELLITE (Earth-to-space) 722 734B	
1646.5-1656.5 AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) 722 726A 726D 727 729A 730 735			1646.5-1651	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) Mobile-Satellite (Earth-to-space) US308 US309 722 726A	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) Mobile-Satellite (Earth-to-space) US308 US309 722 726A	
			1651-1660	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US308 US309 722 726A	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) US308 US309 722 726A	
1656.5-1660 LAND MOBILE-SATELLITE (Earth-to-space) 722 726A 726D 727 730 730A 730B 730C 734A						
1660-1660.5 LAND MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY 722 726A 726D 730A 730B 730C 736			1660-1660.5	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) RADIO ASTRONOMY US309 722 726A 736	AERONAUTICAL MOBILE-SATELLITE (R) (Earth-to-space) RADIO ASTRONOMY US309 722 726A 736	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1660.5-1668.4 RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 722 736 737 738 739			1660.5-1668.4	RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246 722	RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246 722	
1668.4-1670 METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 722 736			1668.4-1670	METEOROLOGICAL AIDS (Radiosonde) RADIO ASTRONOMY US74 US99 722 736	METEOROLOGICAL AIDS (Radiosonde) RADIO ASTRONOMY US74 US99 722 736	
1670-1675 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE 740A 722			1670-1690	METEOROLOGICAL AIDS (Radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) US211 722	METEOROLOGICAL AIDS (Radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) US211 722	
1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 722	1675-1690 METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 722 735A	1675-1690 FIXED METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 722				

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aero-nautical mobile 671 722 741	1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (Earth-to-space) 671 722 735A 740	1690-1700 METEOROLOGICAL AIDS METEOROLOGICAL SATELLITE (space-to-Earth) 671 722 740 742	1690-1700	METEOROLOGICAL AIDS (Radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) 671 722	METEOROLOGICAL AIDS (Radiosonde) METEOROLOGICAL-SATELLITE (space-to-Earth) 671 722	
1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aero-nautical mobile 671 722	1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mo-bile MOBILE-SATELLITE (Earth-to-space) 671 722 735A	1700-1710 FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aero-nautical mobile 671 722 743	1700-1710	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 671 722 G118	METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed 671 722	
1710-1930 FIXED MOBILE 740A 722 744 745 746 746A			1710-1850	FIXED MOBILE US256 722 G42	 US256 722	
1930-1970 FIXED MOBILE 764A	1930-1970 FIXED MOBILE Mobile-Satellite (Earth-to-space) 746A	1930-1970 FIXED MOBILE 746A	1850-1990		FIXED MOBILE	
1970-1980 FIXED MOBILE 746A	1970-1980 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 746A 746B 746C	1970-1980 FIXED MOBILE 746A		US331	US331	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
1980-2010 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 746A 746B 746C			1990-2110	US90 US111 US219 US222	FIXED MOBILE US90 US111 US219 US222 NG23 NG118	
2010-2025 FIXED MOBILE 746A						
2025-2110 SPACE OPERATION (Earth-to-space)(space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space)(space-to-space) FIXED MOBILE 747A SPACE RESEARCH (Earth-to-space)(space-to-space) 750A						
2110-2120 FIXED MOBILE SPACE RESEARCH (deep space) (Earth-to-space) 746A			2110-2150	US111 US252	FIXED MOBILE US111 US252 NG23 NG153	
2120-2160 FIXED MOBILE 746A	2120-2160 FIXED MOBILE Mobile-Satellite (space-to-Earth) 746A	2120-2160 FIXED MOBILE 746A				
			2150-2160		FIXED NG23	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
2160-2170 FIXED MOBILE 746A	2160-2170 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 746A 746B 746C	2160-2170 FIXED MOBILE 746A	2160-2200		FIXED MOBILE NG23 NG153	
2170-2200 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 746A 746B 746C						
2200-2290 SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 747A SPACE RESEARCH (space-to-Earth) (space-to-space) 750A			2200-2290	FIXED (LOS* only) MOBILE (LOS only including aeronautical telemetering, but excluding flight testing of manned aircraft) SPACE RESEARCH (space-to-Earth) (space-to-space) SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) G101 US303 750A	US303	* Line of sight.
2290-2300 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (Deep Space) (space-to-Earth)			2290-2300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) (Deep Space only)	SPACE RESEARCH (space-to-Earth) (Deep Space only)	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
2300-2450 FIXED MOBILE Amateur Radiolocation 664 751A 752	2300-2450 FIXED MOBILE RADIOLOCATION Amateur 664 750B 751 751B 752		2300-2310	 G123	Amateur US253	
			2310-2360	Mobile Radiolocation Fixed 751B US276 US327 US328 G2 G120	BROADCASTING-SATELLITE Mobile 751B US276 US327 US328	
			2360-2390	MOBILE RADIOLOCATION Fixed US276 G2 G120	MOBILE US276	
			2390-2400	G122	AMATEUR	
			2400-2402	664 752 G123	Amateur 644 752	ISM 2450 ± 50 MHz
			2402-2417	664 752 G122	AMATEUR 664 752	ISM 2450 ± 50 MHz
			2417-2450	Radiolocation 664 752 G2 G124	Amateur 664 752	ISM 2450 ± 50 MHz
2450-2483.5 FIXED MOBILE Radiolocation 752 753	2450-2483.5 FIXED MOBILE RADIOLOCATION 751 752		2450-2483.5	 US41 752	FIXED MOBILE Radiolocation US41 752	ISM 2450 ± 50 MHz

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) Radiolocation 733F 752 753 753A 753B 753C 753F	2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) RADIODETERMIN-ATION-SATELLITE (space-to-Earth) 753A RADIOLOCATION 752 753D 753F	2483.5-2500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) RADIOLOCATION Radiodetermina-tion-Satellite (space-to-Earth) 753A 752 753C 753F	2483.5-2500	RADIODETERMINATION -SATELLITE (space-to-Earth) 753A MOBILE-SATELLITE (space-to-Earth) US41 US319 752 753F	RADIODETERMINA-TION-SATELLITE (space-to-Earth) 753A MOBILE-SATELLITE (space-to-Earth) US41 US319 752 753F NG147	
2500-2520 FIXED 762 763 764 MOBILE except aero nautical mobile MOBILE-SATELLITE (space-to-Earth) 754 754B 755A 756 759 760A	2500-2520 FIXED 762 764 FIXED-SATELLITE (space-to-Earth) 761 MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 754 754A 755 755A 760A		2500-2655		BROADCASTING-SATELLITE FIXED US205 US269 720 NG47 NG101 NG102	
2520-2655 FIXED 762 763 764 MOBILE except aero-nautical mobile BROADCASTING-SATEL LITE 757 760 720 754 754B 756 757A 758 759	2520-2655 FIXED 762 764 FIXED-SATELLITE (space-to-Earth) 761 MOBILE except aero-nautical mobile BROADCASTING-SATEL LITE 757 760 720 754 755	2520-2535 FIXED 762 764 FIXED-SATELLITE (space-to-Earth) 761 MOBILE except aero nautical mobile BROADCASTING-SATEL LITE 757 760 754				

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	Region 2 MHz	Region 3 MHz	Band MHz	Government Allocation	Non-Government Allocation	Remarks
		2535-2655 FIXED 762 764 MOBILE except aero- nautical mobile BROADCASTING- SATEL LITE 757 760 720 757A				
2655-2670 FIXED 762 763 764 MOBILE except aero- nautical mobile BROADCASTING- SATEL LITE 757 760 Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 758 759 765 766	2655-2670 FIXED 762 764 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 761 MOBILE except aero- nautical mobile BROADCASTING- SATEL LITE 757 760 Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 765 766	2655-2670 FIXED 762 764 FIXED-SATELLITE (Earth-to-space) 761 MOBILE except aero- nautical mobile BROADCASTING- SATEL LITE 757 760 Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 765 766	2655-2690	Earth Explora- tion- Satellite (Passive) Radio Astronomy Space Research (Passive) US205 US269	BROADCASTING- SATELLITE FIXED Earth Explora- tion- Satellite (Passive) Radio Astronomy Space Research (Passive) US205 US269 NG47 NG101 NG102	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
2670-2690 FIXED 762 763 764 MOBILE except aero- nautical mobile MOBILE-SATELLITE (Earth-to-space) Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 764A 765 766	2670-2690 FIXED 762 764 FIXED-SATELLITE (Earth-to-space) 761 (space-to-Earth) MOBILE except aero nautical mobile MOBILE-SATELLITE (Earth-to-space) Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 764A 765 766	2670-2690 FIXED 762 764 FIXED-SATELLITE (Earth-to-space) 761 MOBILE except aero nautical mobile MOBILE-SATELLITE (Earth-to-space) Earth Exploration- Satellite (passive) Radio Astronomy Space Research (passive) 764A 765 766				
2690-2700 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 767 768 769			2690-2700	EARTH EXPLORA-TION- SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	EARTH EXPLORA-TION- SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	
2700-2900 AERONAUTICAL RADIONAVIGATION 717 Radiolocation 770 771			2700-2900	AERONAUTICAL RADIONAVIGATION METEOROLOGICAL AIDS Radiolocation US18 717 770 G2 G15	US18 717 770	
2900-3100 RADIONAVIGATION 773 Radiolocation 772 775A			2900-3100	MARITIME RADIONAVIGATION Radiolocation US44 US316 775A G56	MARITIME RADIONAVIGATION Radiolocation US44 US316 775A	
3100-3300 RADIOLOCATION 713 777 778			3100-3300	RADIOLOCATION US110 713 778 G59	Radiolocation US110 713 778	See Part 7.18 of the NTIA Manual.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
3300-3400 RADIOLOCATION 778 779 780	3300-3400 RADIOLOCATION Amateur Fixed Mobile 778 780	3300-3400 RADIOLOCATION Amateur 778 779	3300-3500	RADIOLOCATION US108 664 778 G31	Amateur Radiolocation US108 664 778	
3400-3600 FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation 781 785	3400-3500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile Radiolocation 784 664 783					
	3500-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 784 786		3500-3600	AERONAUTICAL RADIONAVIGATION (Ground-based) RADIOLOCATION US110 G59 G110	Radiolocation US110	
3600-4200 FIXED FIXED-SATELLITE (space-to-Earth) Mobile			3600-3700	AERONAUTICAL RADIONAVIGATION (Ground-based) RADIOLOCATION US110 US245 G59 G110	FIXED-SATELLITE (space-to-Earth) Radiolocation US110 US245	
	3700-4200 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 787		3700-4200		FIXED FIXED-SATELLITE (space-to-Earth) NG41	
4200-4400 AERONAUTICAL RADIONAVIGATION 789 788 790 791			4200-4400	AERONAUTICAL RADIONAVIGATION US261 791	AERONAUTICAL RADIONAVIGATION US261 791	
4400-4500 FIXED MOBILE			4400-4500	FIXED MOBILE		

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
4500-4800 FIXED FIXED-SATELLITE (space-to-Earth) 792A MOBILE			4500-4635	FIXED MOBILE US245	FIXED-SATELLITE (space-to-Earth) US245 792A	
			4635-4660	 G125	FIXED-SATELLITE (Space-to-Earth) US245	
			4660-4685	G122	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US245 792A	
			4685-4800	FIXED MOBILE US245	FIXED-SATELLITE (space-to-Earth) US245 792A	
4800-4990 FIXED MOBILE 793 Radio Astronomy 720 778 794			4800-4990	FIXED MOBILE US203 US257 720 778	 US203 US257 720 778	
4990-5000 FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space Research (passive) 795			4990-5000	RADIO ASTRONOMY Space Research (Passive) US74 US246	RADIO ASTRONOMY Space Research (Passive) US74 US246	
5000-5250 AERONAUTICAL RADIONAVIGATION 733 796 797 797A 797B			5000-5250	AERONAUTICAL RADIONAVIGATION G126 US211 US260 US307 733 796 797 797A	AERONAUTICAL RADIONAVIGATION US211 US260 US307 733 796 797 797A	
5250-5255 RADIOLOCATION Space Research 713 798			5250-5350	RADIOLOCATION US110 713 G59	Radiolocation US110 713	See Part 7.18 of the NTIA Manual.

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			**UNITED STATES**			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
5255-5350 RADIOLOCATION 713 798						
5350-5460 AERONAUTICAL RADIONAVIGATION 799 Radiolocation			5350-5460	AERONAUTICAL RADIONAVIGATION RADIOLOCATION US48 799 G56	AERONAUTICAL RADIONAVIGATION Radiolocation US48 799	
5460-5470 RADIONAVIGATION 799 Radiolocation			5460-5470	RADIONAVIGATION Radiolocation US49 US65 799 G56	RADIONAVIGATION Radiolocation US49 US65 799	See Part 7.18 of the NTIA Manual.
5470-5650 MARITIME RADIONAVIGATION Radiolocation 800 801 802			5470-5600	MARITIME RADIONAVIGATION Radiolocation US50 US65 G56	MARITIME RADIONAVIGATION Radiolocation US50 US65	
			5600-5650	MARITIME RADIONAVIGATION METEOROLOGICAL AIDS Radiolocation US51 US65 802 G56	MARITIME RADIONAVIGATION METEOROLOGICAL AIDS Radiolocation US51 US65 802	
5650-5725 RADIOLOCATION Amateur Space Research (deep space) 664 801 803 804 805			5650-5850	RADIOLOCATION 664 806 808 G2	Amateur 664 806 808	ISM 5800 ± 75 MHz
5725-5850 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 801 803 805 806 807 808	5725-5850 RADIOLOCATION Amateur 803 805 806 808					

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
5850-5925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 806	5850-5925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Amateur Radiolocation 806	5850-5925 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Radiolocation 806	5850-5925	RADIOLOCATION US245 806 G2	FIXED-SATELLITE (Earth-to-space) Amateur US245 806	
5925-7075 FIXED FIXED-SATELLITE (Earth-to-space) 792A MOBILE 791 809			5925-6425		FIXED FIXED-SATELLITE (Earth-to-space) NG41	
			6425-6525	 791 809	FIXED-SATELLITE (Earth-to-space) MOBILE 791 809 NG122	
			6525-6875	 809	FIXED FIXED-SATELLITE (Earth-to-space) 809	
			6875-7075	 809	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 809 NG118	
7075-7250 FIXED MOBILE 809 810 811			7075-7125	 809	FIXED MOBILE 809 NG118	
			7125-7190	FIXED US252 809 G116	 US252 809	
			7190-7235	FIXED SPACE RESEARCH (Earth-to-space) 809	 809	
			7235-7250	FIXED 809	 809	

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	Region 2 MHz	Region 3 MHz	Band MHz	Government Allocation	Non-Government Allocation	Remarks
7250-7300 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 812			7250-7300	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Fixed G117		
7300-7450 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 812			7300-7450	FIXED FIXED-SATELLITE (space-to-Earth) Mobile-Satellite (space-to-Earth) G117		
7450-7550 FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile			7450-7550	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL- SATELLITE (space- to-Earth) Mobile-Satellite (space-to-Earth) G104 G117		
7550-7750 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile			7550-7750	FIXED FIXED-SATELLITE (space-to-Earth) Mobile-Satellite (space-to-Earth) G117		
7750-7900 FIXED MOBILE except aeronautical mobile			7750-7900	FIXED		
7900-8025 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 812			7900-8025	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Fixed G117		

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
8025-8175 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8025-8175 EARTH EXPLORATION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 814	8025-8175 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8025-8175	EARTH EXPLORA- TION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) Mobile-Satellite (Earth-to-space) (No Airborne Transmission) US258 G117	US258	
8175-8215 FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL- SATELLITE (Earth- to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8175-8215 EARTH EXPLORATION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL- SATELLITE (Earth- to-space) MOBILE 814	8175-8215 FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL- SATELLITE (Earth- to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8175-8215	EARTH EXPLORA- TION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL- SATELLITE (Earth- to-space) Mobile-Satellite (Earth-to-space) (No Airborne Transmissions) US258 G104 G117	US258	
8215-8400 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8215-8400 EARTH EXPLORATION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 814	8215-8400 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Earth Exploration- Satellite (space- to-Earth) 813 815	8215-8400	EARTH EXPLORA- TION- SATELLITE (space- to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) Mobile-Satellite (Earth-to-space) (No Airborne Transmissions) US258 G117	US258	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
8400-8500 FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 816 817 818			8400-8450	FIXED SPACE RESEARCH (space-to-Earth) (Deep Space only)		
			8450-8500	FIXED SPACE RESEARCH (space-to-Earth)	SPACE RESEARCH (space-to-Earth)	
8500-8750 RADIOLOCATION 713 819 820			8500-9000	RADIOLOCATION US53 US110 713 G59	Radiolocation US53 US110 713	See Part 7.18 of the NTIA Manual.
8750-8850 RADIOLOCATION AERONAUTICAL RADIONAVIGATION 821 822						
8850-9000 RADIOLOCATION MARITIME RADIONAVIGATION 823 824						
9000-9200 AERONAUTICAL RADIONAVIGATION 717 Radiolocation 822			9000-9200	AERONAUTICAL RADIONAVIGATION Radiolocation US48 US54 717 G2 G19	AERONAUTICAL RADIONAVIGATION Radiolocation US48 US54 717	See Part 7.18 of the NTIA Manual.
9200-9300 RADIOLOCATION MARITIME RADIONAVIGATION 823 824 824A			9200-9300	MARITIME RADIONAVIGATION Radiolocation US110 823 824A G59	MARITIME RADIONAVIGATION Radiolocation US110 823 824A	See Part 7.18 of the NTIA Manual.
9300-9500 RADIONAVIGATION 825A Radiolocation 775A 824A 825			9300-9500	RADIONAVIGATION Meteorological Aids Radiolocation US51 US66 US67 US71 775A 824A 825A G56	RADIONAVIGATION Meteorological Aids Radiolocation US51 US66 US67 US71 775A 824A 825A	See Part 7.18 of the NTIA Manual.

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			**UNITED STATES**			
Region 1 MHz	**Region 2 MHz**	**Region 3 MHz**	**Band MHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
9500-9800 RADIOLOCATION RADIONAVIGATION 713 9800-10000 RADIOLOCATION Fixed 826 827 828			9500-10000	RADIOLOCATION US110 713 828	Radiolocation US110 713 828	See Part 7.18 of the NTIA Manual.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
10-10.45 FIXED MOBILE RADIOLOCATION Amateur 828	10-10.45 RADIOLOCATION Amateur 828 829	10-10.45 FIXED MOBILE RADIOLOCATION Amateur 828	10-10.45	RADIOLOCATION US58 US108 828 G32	Amateur Radiolocation US58 US108 828 NG42	
10.45-10.5 RADIOLOCATION Amateur Amateur-Satellite 830			10.45-10.5	RADIOLOCATION US58 US108 G32	RADIOLOCATION Amateur Amateur-Satellite US58 US108 NG42 NG134	
10.5-10.55 FIXED MOBILE Radiolocation	10.5-10.55 FIXED MOBILE RADIOLOCATION		10.5-10.55	RADIOLOCATION US59	RADIOLOCATION US59	
10.55-10.6 FIXED MOBILE except aeronautical mobile Radiolocation			10.55-10.6		FIXED	
10.6-10.68 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 831 832			10.6-10.68	EARTH EXPLO- RATION- SATELLITE (Passive) SPACE RESEARCH (Passive) US265 US277	EARTH EXPLO- RATION- SATELLITE (Passive) FIXED SPACE RESEARCH (Passive) US265 US277	
10.68-10.7 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 833 834			10.68-10.7	EARTH EXPLO- RATION- SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	EARTH EXPLO- RATION- SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
10.7-11.7 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 792A 835 MOBILE except aero- nautical mobile	10.7-11.7 FIXED FIXED-SATELLITE (space-to-Earth) 792A MOBILE except aeronautical mobile		10.7-11.7	US211	FIXED FIXED-SATELLITE (space-to-Earth) 792A US211 NG41 NG104	
11.7-12.5 FIXED BROADCASTING BROADCASTING- SATELLITE Mobile except aero- nautical mobile 838	11.7-12.1 FIXED 837 FIXED-SATELLITE (space-to-Earth) Mobile except aero- nautical mobile 836 839	11.7-12.2 FIXED MOBILE except aero- nautical mobile BROADCASTING BROADCASTING- SATELLITE 838	11.7-12.2	837 839	FIXED-SATELLITE (space-to-Earth) Mobile except aero- nautical mobile 837 839 NG143 NG145	
	12.1-12.2 FIXED-SATELLITE (space-to-Earth) 836 839 842					
	12.2-12.7 FIXED MOBILE except aero- nautical mobile BROADCASTING BROADCASTING- SATELLITE 839 844 846	12.2-12.5 FIXED MOBILE except aero- nautical mobile BROADCASTING 838 845	12.2-12.7	839 843 844	FIXED BROADCASTING- SATELLITE 839 843 844 NG139	
12.5-12.75 FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 848 849 850		12.5-12.75 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aero- nautical mobile BROADCASTING- SATELLITE 847				
	12.7-12.75 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aero- nautical mobile		12.7-12.75		FIXED FIXED-SATELLITE (Earth-to-space) MOBILE NG53 NG118	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
12.75-13.25 FIXED FIXED-SATELLITE (Earth-to-space) 792A MOBILE Space Research (deep space) (space-to-Earth)			12.75-13.25	US251	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 792A US251 NG53 NG104 NG118	
13.25-13.4 AERONAUTICAL RADIONAVIGATION 851 852 853			13.25-13.4	AERONAUTICAL RADIONAVIGATION Space Research (Earth-to-space) 851	AERONAUTICAL RADIONAVIGATION Space Research (Earth-to-space) 851	
13.4-13.75 RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research 713 853 854 855			13.4-14	RADIOLOCATION Space Research Standard Frequency and Time Signal-Satellite (Earth-to-space) US110 713 G59	Radiolocation Space Research Standard Frequency and Time Signal-Satellite (Earth-to-space) US110 713	See Part 7.18 of the NTIA Manual.
13.75-14 FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Standard Frequency and Time Signal-Satellite (Earth-to-space) 713 853 854 855 855A 855B						
14-14.25 FIXED-SATELLITE (Earth-to-space) 858 RADIONAVIGATION 856 Space Research 857 859			14-14.2	RADIONAVIGATION Space Research US287 US292	FIXED-SATELLITE (Earth-to-space) RADIONAVIGATION Space Research US287 US292	
			14.2-14.3	US287	FIXED-SATELLITE (Earth-to-space) US287	
14.25-14.3 FIXED-SATELLITE (Earth-to-space) 858 RADIONAVIGATION 856 Space Research 857 859 860 861						

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
14.3-14.4 FIXED FIXED-SATELLITE (Earth-to-space) 858 MOBILE except aero-nautical mobile Radionavigation-Satellite 859	14.3-14.4 FIXED-SATELLITE (Earth-to-space) 858 Radionavigation-Satellite 859	14.3-14.4 FIXED FIXED-SATELLITE (Earth-to-space) 858 MOBILE except aero-nautical mobile Radionavigation-Satellite 859	14.3-14.4	 US287	FIXED-SATELLITE (Earth-to-space) US287	
14.4-14.47 FIXED FIXED-SATELLITE (Earth-to-space) 858 MOBILE except aeronautical mobile Space Research (space-to-Earth) 859			14.4-14.5	Fixed Mobile US203 US287 862	FIXED-SATELLITE (Earth-to-space) US203 US287 862	
14.47-14.5 FIXED FIXED-SATELLITE (Earth-to-space) 858 MOBILE except aeronautical mobile Radio Astronomy 859 862						
14.5-14.8 FIXED FIXED-SATELLITE (Earth-to-space) 863 MOBILE Space Research			14.5-14.7145	FIXED Mobile Space Research		
			14.7145-15.1365	MOBILE Fixed Space Research US310	 US310	
14.8-15.35 FIXED MOBILE Space Research 720						
			15.1365-15.35	FIXED Mobile Space Research US211 720	 US211 720	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
15.35-15.4 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 864 865			15.35-15.4	EARTH EXPLO-RATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	EARTH EXPLO-RATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	
15.4-15.7 AERONAUTICAL RADIONAVIGATION 733 797			15.4-15.7	AERONAUTICAL RADIONAVIGATION US211 US260 733 797	AERONAUTICAL RADIONAVIGATION US211 US260 733 797	
15.7-16.6 RADIOLOCATION 866 867			15.7-16.6	RADIOLOCATION US110 G59	Radiolocation US110	See Part 7.18 and Section 8.2.46 of the NTIA Manual.
16.6-17.1 RADIOLOCATION Space Research (deep space)(Earth-to-space) 866 867			16.6-17.1	RADIOLOCATION Space Research (Deep Space) (Earth-to-space) US110 G59	Radiolocation US110	See Part 7.18 and Section 8.2.46 of the NTIA Manual.
17.1-17.2 RADIOLOCATION 866 867			17.1-17.2	RADIOLOCATION US110 G59	Radiolocation US110	See Part 7.18 and Section 8.2.46 of the NTIA Manual.
17.2-17.3 RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 866 867			17.2-17.3	RADIOLOCATION Earth Explo-ration-Satellite (Active) Space Research (Active) US110 G59	Earth Explo-ration-Satellite (Active) Radiolocation Space Research (Active) US110	See Part 7.18 and Section 8.2.46 of the NTIA Manual.

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
17.3-17.7 FIXED-SATELLITE (Earth-to-space) 869 Radiolocation 868	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 869 BROADCASTING- SATEL- LITE Radiolocation 868 868A 869A	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 869 Radiolocation 868	17.3-17.7	Radiolocation US259 US271 G59	FIXED-SATELLITE (Earth-to-space) US259 US271 NG140	See Part 7.18 of the NTIA Manual.
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 869 MOBILE	17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 869 BROADCASTING- SATEL LITE Mobile 869B 868A 869A	17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 869 MOBILE	17.7-17.8	 US271	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) MOBILE US271 NG140 NG144	
	17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 869 MOBILE		17.8-18.1	 US334 G117	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US334 NG144	
18.1-18.4 FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 870A MOBILE 870 870B			18.1-18.6		FIXED FIXED-SATELLITE (Space-to-Earth) MOBILE	
18.4-18.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE				870 US334 G117	870 US334 NG144	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
18.6-18.8 FIXED FIXED-SATELLITE (space-to-Earth) 872 MOBILE except aero-nautical mobile Earth Exploration-Satellite (passive) Space Research (passive) 871	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 872 MOBILE except aero-nautical mobile SPACE RESEARCH (passive) 871	18.6-18.8 FIXED FIXED-SATELLITE (space-to-Earth) 872 MOBILE except aero-nautical mobile Earth Exploration-Satellite (passive) Space Research (passive) 871	18.6-18.8	EARTH EXPLO-RATION-SATELLITE (passive) SPACE RESEARCH (passive) US254 US255 US334 G117	FIXED FIXED-SATELLITE (space-to-Earth) EARTH EXPLORATION-SATELLITE (Passive) MOBILE except aero-nautical mobile SPACE RESEARCH (Passive) US254 US255 US334 NG144	
18.8-19.7 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE			18.8-19.7	 US334 G117	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US334 NG144	
19.7-20.1 FIXED-SATELLITE (space-to-Earth) Mobile-Satellite (space-to-Earth) 873	19.7-20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 873 873A 873B 873C 873D 873E	19.7-20.1 FIXED-SATELLITE (space-to-Earth) Mobile-Satellite (space-to-Earth) 873	19.7-20.1	 US334 G117	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 873A 873B 873C 873D 873E US334	
20.1-20.2 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 873 873A 873B 873C 873D			20.1-20.2	 US334 G117	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 873A 873B 873C 873D US334	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
20.2-21.2 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth) 873			20.2-21.2	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth) G117	Standard Frequency and Time Signal-Satellite (space-to-Earth)	
21.2-21.4 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)			21.2-21.4	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263	
21.4-22 FIXED MOBILE BROADCASTING-SATEL LITE 873F	21.4-22 FIXED MOBILE	21.4-22 FIXED MOBILE BROADCASTING-SATEL LITE 873F 873G	21.4-22	FIXED MOBILE	FIXED MOBILE	
22-22.21 FIXED MOBILE except aeronautical mobile 874			22-22.21	FIXED MOBILE except aero-nautical mobile 874	FIXED MOBILE except aero-nautical mobile 874	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
22.21-22.5 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 875 876			22.21-22.5	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE except aero-nautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) US263 875	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE except aero-nautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) US263 875	
22.5-22.55 FIXED MOBILE			22.5-22.55	FIXED MOBILE US211	FIXED MOBILE US211	
22.55-23 FIXED INTER-SATELLITE MOBILE 879			22.55-23	FIXED INTER-SATELLITE MOBILE US278 879	FIXED INTER-SATELLITE MOBILE US278 879	
23-23.55 FIXED INTER-SATELLITE MOBILE 879			23-23.55	FIXED INTER-SATELLITE MOBILE US278 879	FIXED INTER-SATELLITE MOBILE US278 879	
23.55-23.6 FIXED MOBILE			23.55-23.6	FIXED MOBILE	FIXED MOBILE	
23.6-24 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 880			23.6-24	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246	
24-24.05 AMATEUR AMATEUR-SATELLITE 881			24-24.05	 US211 881	AMATEUR AMATEUR-SATELLITE US211 881	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
24.05-24.25 RADIOLOCATION Amateur Earth Exploration-Satellite (active) 881			24.05-24.25	RADIOLOCATION Earth Explo-ration- Satellite (active) US110 881 G59	Amateur Earth Exploration- Satellite (active) Radiolocation US110 881	ISM 24.125 ± 125 MHz
24.25-24.45 FIXED	24.25-24.45 RADIONAVIGATION	24.25-24.45 RADIONAVIGATION FIXED MOBILE	24.25-24.45	RADIONAVIGATION	RADIONAVIGATION	
24.45-24.65 FIXED INTER-SATELLITE	24.45-24.65 INTER-SATELLITE RADIONAVIGATION 882E	24.45-24.65 FIXED INTER-SATELLITE MOBILE RADIONAVIGATION 882E	24.45-24.65	INTER-SATELLITE RADIONAVIGATION 882E	INTER-SATELLITE RADIONAVIGATION 882E	
24.65-24.75 FIXED INTER-SATELLITE	24.65-24.75 INTER-SATELLITE RADIOLOCATION-SAT ELLITE (Earth-to- space)	24.65-24.75 FIXED INTER-SATELLITE MOBILE 882E 882F	24.65-24.75	INTER-SATELLITE RADIOLOCATION- SATELLITE (Earth-to-space)	INTER-SATELLITE RADIOLOCATION- SATELLITE (Earth-to-space)	
24.75-25.25 FIXED	24.75-25.25 FIXED-SATELLITE (Earth-to-space) 882G	24.75-25.25 FIXED FIXED-SATELLITE (Earth-to-space) 882G MOBILE 882F	24.75-25.25	RADIONAVIGATION	RADIONAVIGATION	
25.25-25.5 FIXED INTER-SATELLITE 881A MOBILE Standard Frequency and Time Signal-Satellite (Earth-to-space)			25.25-25.5	FIXED INTER-SATELLITE MOBILE Standard Frequency and Time Signal- Satellite (Earth- to-space) 881A	Earth Explo-ration- Satellite (space- to-space) Standard Frequency and Time Signal- Satellite (Earth- to-space)	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
25.5-27 FIXED INTER-SATELLITE 881A MOBILE Earth Exploration-Satellite (space-to-Earth) Standard Frequency and Time Signal-Satellite (Earth-to-space)			25.5-27	FIXED INTER-SATELLITE MOBILE Earth Exploration-Satellite (space-to-Earth Standard Frequency and Time Signal-Satellite (Earth-to-space) 881A	Earth Exploration- Satellite (space-to-space) Standard Frequency and Time Signal-Satellite (Earth-to-space)	
27-27.5 FIXED INTER-SATELLITE 881A MOBILE	27-27.5 FIXED FIXED-SATELLITE (Earth-to-space) INTER-SATELLITE 881A 881B MOBILE		27-27.5	FIXED INTER-SATELLITE MOBILE 881A	Earth Exploration-Satellite (space-to-space)	
27.5-28.5 FIXED FIXED-SATELLITE (Earth-to-space) 882D MOBILE 882A 882B			27.5-29.5		FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	
28.5-29.5 FIXED FIXED-SATELLITE (Earth-to-space) 882D MOBILE Earth Exploration-Satellite (Earth-to-space) 882C 882B						

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
29.5-29.9 FIXED-SATELLITE (Earth-to-space) 882D Earth Exploration-Satellite (Earth-to-space) 882C Mobile-Satellite (Earth-to-space) 882B 883	29.5-29.9 FIXED-SATELLITE (Earth-to-space) 882D MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 882C 873A 873B 873C 873E 882B 883	29.5-29.9 FIXED-SATELLITE (Earth-to-space) 882D Earth Exploration-Satellite (Earth-to-space) 882C Mobile-Satellite (Earth-to-space) 882B 883	29.5-30	882	FIXED-SATELLITE (Earth-to-space) Mobile-Satellite (Earth-to-space) 882	
29.9-30 FIXED-SATELLITE (Earth-to-space) 882D MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 882C 873A 873B 873C 882 882A 882B 883						
30-31 FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth) 883			30-31	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth) G117	Standard Frequency and Time Signal-Satellite (space-to-Earth)	
31-31.3 FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research 884 885 886			31-31.3	Standard Frequency and Time Signal-Satellite (space-to-Earth) US211 886	FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) US211 886	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
31.3-31.5 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 887			31.3-31.8	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246	EARTH EXPLO-RATION-SATELLITE (Passive) RADIO ASTRONOMY SPACE RESEARCH (Passive) US74 US246	
31.5-31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aero-nautical mobile 888 889	31.5-31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 888	31.5-31.8 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aero-nautical mobile 888				
31.8-32 RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 892 893			31.8-32	RADIONAVIGATION US69 US211 US262	RADIONAVIGATION US69 US211 US262	
32-32.3 INTER-SATELLITE RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 892 893			32-33	INTER-SATELLITE RADIONAVIGATION US69 US262 US278 893	INTER-SATELLITE RADIONAVIGATION US69 US262 US278 893	
32.3-33 INTER-SATELLITE RADIONAVIGATION 892 893						
33-33.4 RADIONAVIGATION 892			33-33.4	RADIONAVIGATION US69	RADIONAVIGATION US69	
33.4-34.2 RADIOLOCATION 892 894			33.4-36	RADIOLOCATION US110 US252 897 G34	Radiolocation US110 US252 897	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
34.2-34.7 RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) 894						
34.7-35.2 RADIOLOCATION Space Research 896 894						
35.2-36 METEOROLOGICAL AIDS RADIOLOCATION 894 897						
36-37 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 898			36-37	EARTH EXPLO- RATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263 898	EARTH EXPLO- RATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263 898	
37-37.5 FIXED MOBILE SPACE RESEARCH (space-to-Earth)			37-38.6	FIXED MOBILE	FIXED MOBILE	
37.5-38 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)						
38-39.5 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-Satellite (space-to-Earth)			38.6-39.5	 US291	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US291	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
39.5-40 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth Exploration-Satellite (space-to-Earth)			39.5-40	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) US291 G117	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) US291	
40-40.5 EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth Exploration-Satellite (space-to-Earth)			40-40.5	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) G117	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)	
40.5-42.5 BROADCASTING-SATELLITE /BROADCASTING/ Fixed Mobile			40.5-42.5	 US211	BROADCASTING-SATELLITE /BROADCASTING/ Fixed Mobile US211	
42.5-43.5 FIXED FIXED-SATELLITE (Earth-to-space) 901 MOBILE except aeronautical mobile RADIO ASTRONOMY 900			42.5-43.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aero-nautical mobile RADIO ASTRONOMY 900	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE except aero-nautical mobile RADIO ASTRONOMY 900	
43.5-47 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 903			43.5-45.5	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) G117		
			45.5-47	MOBILE MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION-SATELLITE 903	MOBILE MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION-SATELLITE 903	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
47-47.2 AMATEUR AMATEUR-SATELLITE			47-47.2		AMATEUR AMATEUR-SATELLITE	
47.2-50.2 FIXED FIXED-SATELLITE (Earth-to-space) 901 MOBILE 905 904			47.2-50.2	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE US264 US297 904	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE US264 US297 904	
50.2-50.4 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)			50.2-50.4	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263	EARTH EXPLO-RATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263	
50.4-51.4 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)			50.4-51.4	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) G117	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space)	
51.4-54.25 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 906 907			51.4-54.25	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
54.25-58.2 EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE 909 SPACE RESEARCH (passive) 908			54.25-58.2	EARTH EXPLO-RATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US263 909	EARTH EXPLO-RATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US263 909	
58.2-59 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 906 907			58.2-59	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	
59-64 FIXED INTER-SATELLITE MOBILE 909 RADIOLOCATION 910 911			59-64	FIXED INTER-SATELLITE MOBILE RADIOLOCATION 909 910 911	FIXED INTER-SATELLITE MOBILE RADIOLOCATION 909 910 911	ISM 61.25 ± 250 MHz
64-65 EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 906 907			64-65	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	
65-66 EARTH EXPLORATION-SATELLITE SPACE RESEARCH Fixed Mobile			65-66	EARTH EXPLO-RATION-SATELLITE SPACE RESEARCH Fixed Mobile	EARTH EXPLO-RATION-SATELLITE SPACE RESEARCH Fixed Mobile	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
66-71 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 903			66-71	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 903	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 903	
71-74 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) 906			71-74	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) US270	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) US270	
74-75.5 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Space Research (space-to-Earth)			74-75.5	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE US297	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE US297	
75.5-76 AMATEUR AMATEUR-SATELLITE Space Research (space-to-Earth)			75.5-76		AMATEUR AMATEUR-SATELLITE	
76-81 RADIOLOCATION Amateur Amateur-Satellite Space Research (space-to-Earth) 912			76-77	RADIOLOCATION	RADIOLOCATION Amateur	
			77-81	 912	RADIOLOCATION Amateur Amateur-Satellite 912	
81-84 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Space Research (space-to-Earth)			81-84	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
84-86 FIXED MOBILE BROADCASTING BROADCASTING-SATELLITE 913			84-86	FIXED MOBILE US211 913	BROADCASTING BROADCASTING- SATELLITE FIXED MOBILE US211 913	
86-92 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 907			86-92	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246	
92-95 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION 914			92-95	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION 914	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIOLOCATION 914	
95-100 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation 903 904			95-100	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE Radiolocation 902 903 904	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE Radiolocation 902 903 904	
100-102 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 722			100-102	EARTH EXPLO- RATION- SATELLITE (passive) SPACE RESEARCH (passive) US246 722	EARTH EXPLO- RATION- SATELLITE (passive) SPACE RESEARCH (passive) US246 722	
102-105 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 722			102-105	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US211 722	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US211 722	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
105-116 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 722 907			105-116	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246 722	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246 722	
116-126 EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE 909 SPACE RESEARCH (passive) 722 915 916			116-126	EARTH EXPLO- RATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US211 US263 722 909 915 916	EARTH EXPLO- RATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US211 US263 722 909 915 916	ISM 122.5 ± 0.5 GHz
126-134 FIXED INTER-SATELLITE MOBILE 909 RADIOLOCATION 910			126-134	FIXED INTER-SATELLITE MOBILE RADIOLOCATION 909 910	FIXED INTER-SATELLITE MOBILE RADIOLOCATION 909 910	
134-142 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE Radiolocation 903 917 918			134-142	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE Radiolocation 902 903 917 918	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE Radiolocation 902 903 917 918	
142-144 AMATEUR AMATEUR-SATELLITE			142-144		AMATEUR AMATEUR-SATELLITE	
144-149 RADIOLOCATION Amateur Amateur-Satellite 918			144-149	RADIOLOCATION 2241918	RADIOLOCATION Amateur Amateur-Satellite 918	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
149-150 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE			149-150	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE	
150-151 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) 919			150-151	EARTH EXPLO-RATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) US263 919	EARTH EXPLO-RATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) US263 919	
151-156 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE			151-164	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US211	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US211	
156-158 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE						
158-164 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE						
164-168 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)			164-168	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	EARTH EXPLO-RATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	
168-170 FIXED MOBILE			168-170	FIXED MOBILE	FIXED MOBILE	

TABLES OF FREQUENCY ALLOCATIONS						
INTERNATIONAL			UNITED STATES			
Region 1 GHz	Region 2 GHz	Region 3 GHz	Band GHz	Government Allocation	Non-Government Allocation	Remarks
170-174.5 FIXED INTER-SATELLITE MOBILE 909 919			170-174.5	FIXED INTER-SATELLITE MOBILE 909 919	FIXED INTER-SATELLITE MOBILE 909 919	
174.5-176.5 EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE MOBILE 909 SPACE RESEARCH (passive) 919			174.5-176.5	EARTH EXPLO- RATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US263 909 919	EARTH EXPLO- RATION- SATELLITE (passive) FIXED INTER-SATELLITE MOBILE SPACE RESEARCH (passive) US263 909 919	
176.5-182 FIXED INTER-SATELLITE MOBILE 909 919			176.5-182	FIXED INTER-SATELLITE MOBILE US211 909 919	FIXED INTER-SATELLITE MOBILE US211 909 919	
182-185 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 920 921			182-185	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US246	
185-190 FIXED INTER-SATELLITE MOBILE 909 919			185-190	FIXED INTER-SATELLITE MOBILE US211 909 919	FIXED INTER-SATELLITE MOBILE US211 909 919	
190-200 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 722 903			190-200	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE 722 902 903	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION- SATELLITE 722 902 903	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
200-202 EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 722			200-202	EARTH EXPLO- RATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263 722	EARTH EXPLO- RATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) US263 722	
202-217 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 722			202-217	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 722	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 722	
217-231 EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 722 907			217-231	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246 722	EARTH EXPLO- RATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) US74 US246 722	
231-235 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation			231-235	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation US211	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation US211	
235-238 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive)			235-238	EARTH EXPLO- RATION- SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) US263	EARTH EXPLO- RATION- SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (passive) US263	

TABLES OF FREQUENCY ALLOCATIONS

INTERNATIONAL			UNITED STATES			
Region 1 GHz	**Region 2 GHz**	**Region 3 GHz**	**Band GHz**	**Government Allocation**	**Non-Government Allocation**	**Remarks**
238-241 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation			238-241	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	
241-248 RADIOLOCATION Amateur Amateur-Satellite 922			241-248	RADIOLOCATION 922	RADIOLOCATION Amateur Amateur-Satellite 922	ISM 245 ± 1 GHz
248-250 AMATEUR AMATEUR-SATELLITE			248-250		AMATEUR AMATEUR-SATELLITE	
250-252 EARTH EXPLORATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 923			250-252	EARTH EXPLO-RATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 923	EARTH EXPLO-RATION-SATELLITE (Passive) SPACE RESEARCH (Passive) 923	
252-265 MOBILE 902 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 903 923 924 925			252-265	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE US211 902 903 923 924	MOBILE MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE US211 902 903 923 924	
265-275 FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 926			265-275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 926	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 926	
275-400 (Not Allocated) 927			275-300	FIXED MOBILE 927	FIXED MOBILE 927	
			300-400	(Not allocated) 927	(Not allocated) 927	

(These footnotes, each consisting of the letter "G" followed by one or more digits, denote stipulations applicable only to the Government.)

FOOTNOTES

Government (G) Footnotes

G2--In the bands 216-225, 420-450 (except as provided by US217), 890-902, 928-942, 1300-1400, 2310-2390, 2417-2450, 2700-2900, 5650-5925, and 9000-9200 MHz, the Government radiolocation is limited to the military services.

G5--In the bands 162.0125-173.2, 173.4-174, 406.1-410 and 410-420 MHz, the fixed and mobile services are all allocated on a primary basis to the Government non-military agencies.

G6--Military tactical fixed and mobile operations may be conducted nationally on a secondary basis; (1) to the meteorological aids service in the band 403-406 MHz; and (2) to the radio astronomy service in the band 406.1-410 MHz. Such fixed and mobile operations are subject to local coordination to ensure that harmful interference will not be caused to the services to which the bands are allocated.

G8--Low power Government radio control operations are permitted in the band 420-450 MHz.

G11--Government fixed and mobile radio services including low power radio control operations, are permitted in the band 902-928 MHz on a secondary basis.

G15--Use of the band 2700-2900 MHz by the military fixed and shipborne air defense radiolocation installations will be fully coordinated with the meteorological aids and aeronautical radionavigation services. The military air defense installations will be moved from the band 2700-2900 MHz at the earliest practicable date. Until such time as military air defense installations can be accommodated satisfactorily elsewhere in the spectrum, such operations will, insofar as practicable, be adjusted to meet the requirements of the aeronautical radio-navigation service.

G19--Use of the band 9000-9200 MHz by military fixed and shipborne air defense radiolocation installations will be fully coordinated with the aeronautical radionavigation service, recognizing fully the safety aspects of the latter. Military air defense installations will be accommodated ultimately outside this band. Until such time as military defense installations can be accommodated satisfactorily elsewhere in the spectrum such operations will, in-so-far as practicable, be adjusted to meet the requirements of the aeronautical radionavigation service.

G27--In the bands 225-328.6, 335.4-399.9, and 1350-1400 MHz, the fixed and mobile services are limited to the military services.

G30--In the bands 138-144, 148-149.9, 150.05-150.8, 1427-1429 and 1429-1435 MHz, the fixed and mobile services are limited primarily to operations by the military services.

G31--In the bands 3300-3500 MHz, the Government radiolocation is limited to the military services, except as provided by footnote US108.

G32--Except for weather radars on meteorological-satellites in the band 9975-10025 MHz and for Government survey operations (see footnote US108), Government radiolocation in the band 10000-10500 MHz is limited to the military services.

G34--In the band 34.4-34.5 GHz, Weather radars on board meteorological satellites for cloud detection are authorized to operate on the basis of equality with military radiolocation devices. All other non-military radiolocation in the band 33.4-36.0 GHz shall be secondary to the military services.

G42--Space command, control, range and range rate systems for earth station transmission only (including installations on certain Navy ships) may be accommodated on a co-equal basis with the fixed and mobile services in the band 1761-1842 MHz. Specific frequencies required to be used at any location will be satisfied on a coordinated case-by-case basis.

G56--Government radiolocation in the bands 1215-1300, 2900-3100, 5350-5650 and 9300-9500 MHz is primarily for the military services; however, limited secondary use is permitted by other Government agencies in support of experimentation and research programs. In addition, limited secondary use is permitted for survey operations in the band 2900-3100 MHz.

G59--In the bands 902-928 MHz, 3100-3300 MHz, 3500-3700 MHz, 5250-5350 MHz, 8500-9000 MHz, 9200-9300 MHz, 13.4-14.0 GHz, 15.7-17.7 GHz and 24.05-24.25 GHz, all Government non-military radiolocation shall be secondary to military radiolocation, except in the subband 15.7-16.2 GHz airport surface detection equipment (ASDE) is permitted on a co-

equal basis subject to coordination with the military departments.

G100--The bands 235-322 MHz and 335.4-399.9 MHz are also allocated on a primary basis to the mobile-satellite service, limited to military operations.

G101--In the band 2200-2290 MHz, space operations (space-to-Earth) and (space-to-space), and earth exploration-satellite (space-to-Earth) and (space-to-space) services, may be accommodated on a co-equal basis with fixed, mobile and space research service.

G104--In the bands 7450-7550 and 8175-8215 MHz, it is agreed that although the military space radio communication systems, which include earth stations near the proposed meteorological-satellite installations will precede the meteorological-satellite installations, engineering adjustments to either the military or the meteorological-satellite systems or both will be made as mutually required to assure compatible operations of the systems concerned.

G106--The bands 2501-2502 kHz, 5003-5005 kHz, 10003-10005 kHz, 15005-15010 kHz, 19990-19995 kHz, 20005-20010 kHz and 25005-25010 kHz are also allocated, on a secondary basis, to the space research service. The space research transmissions are subject to immediate temporary or permanent shutdown in the event of interference to the reception of the standard frequency and time broadcasts.

G109--All assignments in the band 157.0375-157.-1875 MHz are subject to adjustment to other frequencies in this band as long term U.S. maritime VHF planning develops, particularly that planning incident to support the National VHF-FM Radiotelephone Safety and Distress System (See Doc. 15624/1-1.9.111/1.9.125).

G110--Government ground-based stations in the aeronautical radionavigation service may be authorized between 3500 and 3700 MHz where accommodation in the 2700-2900 MHz band is not technically and/or economically feasible.

G114--In the band 1350-1400 MHz, the frequency 1381.05 MHz with emissions limited to ± 12 MHz is also allocated to Fixed and Mobile-Satellite Services (space-to-Earth) for the relay of nuclear burst data.

G115--In the band 13360-13410 kHz, the fixed service is allocated on a primary basis outside the conterminous United States. Within the conterminous United States, assignments in the fixed service are permitted, and will be protected for national defense purposes or, if they are to be used only in an emergency jeopardizing life, public safety, or important property under conditions calling for immediate communication where other means of communication do not exist.

G116--The band 7125-7155 MHz is also allocated for Earth-to-space transmission in the Space Operations Service at a limited number of sites (not to exceed two), subject to established coordination procedures.

G117--In the bands 7250-7750,7900-8400 MHz and 17.8-21.2, 30-31, 39.5-40.5, 43.5-45.5 and 50.4-51.4 GHz the Government fixed-satellite and mobile-satellite services are limited to military systems.

G118--Government fixed stations may be authorized in the band 1700-1710 MHz only if spectrum is not available in the band 1710-1850 MHz.

G120--Development of airborne primary radars in the band 2310-2390 MHz with peak transmitter power in excess of 250 watts for use in the United States is not permitted.

G121--In the band 285-325 kHz, the Maritime Radionavigation Service may also be used on a primary basis by Maritime Radionavigation Land Stations, and on a secondary basis by Radionavigation Land Stations, to transmit differential global positioning satellite (DGPS) information.

G122--The bands 2390-2400, 2402-2417 and 4660-4685 MHz were identified for immediate reallocation, effective August 10, 1994, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective August 10, 1994, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations.

G123--The bands 2300-2310 and 2400-2402 MHz were identified for reallocation, effective August 10, 1995, for exclusive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective August 10, 1995, any Government operations in these bands are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations.

G124--The band 2417-2450 MHz was identified for reallocation, effective August 10, 1995, for mixed Government and non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993.

G125--The 4635-4660 MHz band was identified for reallocation, effective January 1, 1997, for exclu-sive non-Government use under Title VI of the Omnibus Budget Reconciliation Act of 1993. Effective January 1, 1997, any Government opera-tions in this band are on a non-interference basis to authorized non-Government operations and shall not hinder the implementation of any non-Government operations. However, Government operation of mobile (including airborne) systems authorized as of March 22, 1995, within 80 km of Pico Del Este, PR (18° 16' N, 65° 46' W), Dam Neck, VA (36° 46' N, 75° 57' W), and St. Thomas, VI (18° 21' N, 64° 55' W) will be permitted on a fully protected basis until January 1, 2009.

G126--Differential-Global-Positioning-System (DGPS) Stations may be authorized on a primary basis in the bands 108-117.975 MHz, 1559-1610 MHz, and 5000-5150 MHz for the specific purpose of transmitting DGPS information intended for aircraft navigation.

G127--Federal Travelers Information Stations (TIS) on 1610 kHz have co-primary status with AM Broadcast assignments. Federal TIS authorized as of August 4, 1994, preclude subsequent assignment for conflicting allotments.

US Footnotes

(These footnotes, each consisting of the letters US followed by one or more digits, denote stipulations applicable to both Government and non-Government stations.)

US7--In the band 420-450 MHz and within the following areas, the peak envelope power output of a transmitter employed in the amateur service shall not exceed 50 watts, unless expressly authorized by the Commission after mutual agreement, on a case-by-case basis, between the Federal Communications Commission Engineer in Charge at the applicable district office and the military area frequency coordinator at the applicable military base. For areas (e) through (j), the appropriate military coordinator is located at Peterson AFB, CO.

(a) Those portions of Texas and New Mexico bounded on the south by latitude 31°45' North, on the east by 104°00' West, on the north by latitude 34°30' North, and on the west by longitude 107°30' West;

(b) The entire State of Florida including the Key West area and the areas enclosed within a 322 kilometer (200-mile) radius of Patrick Air Force Base, Florida (latitude 28°21' North, longitude 80°43' West), and within a 322 kilometer (200-mile) radius of Eglin Air Force Base, Florida (latitude 30°30' North, longitude 86°30' West);

(c) The entire State of Arizona;

(d) Those portions of California and Nevada south of latitude 37°10' North, and the areas enclosed within a 322 kilometer (200-mile) radius of the Pacific Missile Test Center, Point Mugu, California (latitude 34°09' North, longitude 119°11' West).

(e) In the State of Massachusetts within a 160-kilometer (100 mile) radius around locations at Otis Air Force Base, Massachusetts (latitude 41°45' North, longitude
70°32' West).

(f) In the State of California within a 240-kilometer (150 mile) radius around locations at Beale Air Force Base, California (latitude 39°08' North, longitude 121°26' West).

(g) In the State of Alaska within a 160 kilometer (100 mile) radius of Clear, Alaska (latitude 64 degrees, 17' North, longitude 149 degrees 10' West).

(h) In the State of North Dakota within a 160 kilometer (100 mile) radius of Concrete, North Dakota (latitude 48 degrees 43' North, longitude 97 degrees 54' West).

(i) In the States of Alabama, Florida, Georgia and South Carolina within a 200 kilometer (124 mile) radius of Warner Robins Air Force Base, Georgia (latitude 32° 38' North, longitude 83° 35' West).

(j) In the State of Texas within a 200-kilometer (124 mile) radius of Goodfellow Air Force Base, Texas (latitude 31° 25' North, longitude 100° 24' West).

US8--The use of frequencies 170.475, 171.425, 171.575 and 172.275 MHz east of the Mississippi River, and 170.425, 170.575,
171.475, 172.225 and 172.375 MHz west of the Mississippi River may be authorized to fixed, land and mobile stations operated by non-Federal forest fire-fighting agencies. In addition, land stations and mobile stations operated by non-Federal conservation agencies, for mobile relay operation only, may be authorized to use the frequency 172.275 MHz east of

the Mississippi River and the frequency 171.475 MHz west of the Mississippi River. The use of any of the foregoing nine frequencies shall be on the condition that no harmful interference will be caused to Government stations.

US10--The use of the frequencies 26.62, 143.75, 143.90 and 148.15 MHz may be authorized to Civil Air Patrol land stations and Civil Air Patrol mobile stations.

US11--The use of the frequencies 166.250 and 170.150 MHz may be authorized to non-Government remote pickup broadcast base and land mobile stations and to non-Government base, fixed and land mobile stations in the public safety radio services (the sum of the bandwidth of emission and tolerance is not to exceed 25 kHz, except that authorizations in existence as of December 20, 1974, using a larger bandwidth are permitted to continue in operation until December 20, 1979) in the continental United States (excluding Alaska) only, except within the area bounded on the west by the Mississippi River, on the north by the parallel of latitude 37º30' N., and on the east and south by that arc of the circle with center at Springfield, Illinois, and radius equal to the airline distance between Springfield, Illinois, and Montgomery, Alabama, subtended between the foregoing west and north boundaries, on the conditions that harmful interference will not be caused to Government stations present or future in the Government and 162-174 MHz. The use of these frequencies by remote pickup broadcast stations will not be authorized for locations within 240 kilometers (150 miles) of New York City; and use of these frequencies by the public safety radio services will not be authorized except for locations within 240 kilometers (150 miles) of New York City.

US13--For the specific purpose of transmitting hydrological and meteorological data in cooperation with agencies of the Federal Government, the following frequencies may be authorized to non-Government fixed stations on the condition that harmful interference will not be caused to Government stations:

MHz	MHz	MHz	MHz
169.425	170.275	171.125	406.175
169.450	170.300	171.825	409.675
169.475	170.325	171.850	409.725
169.500	171.025	171.875	412.625
169.525	171.050	171.900	412.675
170.225	171.075	171.925	412.725
170.250	171.100	406.125	412.775

Licensees holding a valid authorization on June 11, 1962, to operate on the frequencies 169.575, 170.375, or 171.975 MHz may continue to be authorized for such operations on the condition that harmful interference will not be caused to Government stations.

US14--When 500 kHz is being used for distress purposes, ship and coast stations using morse telegraphy may use 512 kHz for calling.

US18--Navigation aids in the US and possessions in the bands 9-14 kHz, 90-110 kHz, 190-415 kHz, 510-535 kHz, and 2700-2900 MHz are normally operated by the U.S. Government. However, authorizations may be made by the FCC for non-Government operation in these bands subject to the conclusion of appropriate arrangements between the FCC and the Government agencies concerned and upon special showing of need for service which the Government is not yet prepared to render.

US25--The use of frequencies in the band 25.85-26.1. MHz may be authorized in any area to non-Government remote pickup broadcast base and mobile stations on the condition that harmful interference is not caused to stations in the broadcasting service.

US26--The bands 117.975-121.4125 MHz, 123.5875-128.8125 MHz and 132.0125-136 MHz are for air traffic control communications.

US28--The band 121.5875-121.9375 MHz is for use by aeronautical utility land and mobile stations, and for air traffic control communications.

US30--The band 121.9375-123.0875 MHz is available to FAA aircraft for communications pursuant to flight inspection functions in accordance with the Federal Aviation Act of 1958.

US31--Except as provided below the band 121.9375-123.0875 MHz is for use by private aircraft stations.

The frequencies 122.700, 122.725, 122.750, 122.800, 122.950, 122.975,
123.000, 123.050 and 123.075 MHz may be assigned to aeronautical advisory stations. In addition, at landing areas having a part-time or no airdrome control tower or FAA flight service station, these frequencies may be assigned on a secondary non-interference basis to aeronautical utility mobile stations, and may be used by FAA ground vehicles for safety related communications during inspections conducted at such landing areas.

The frequencies 122.850, 122.900 and 122.925 MHz may be assigned to aeronautical multicom stations. In addition, 122.850 MHz may be assigned on a secondary non-interference basis to aeronautical utility mobile stations. In case of 122.925 MHz, US213 applies.

Air carrier aircraft stations may use 122.000 and 122.050 MHz for communication with aeronautical stations of the Federal Aviation Administration and 122.700, 122.800, 122.900 and 123.000 MHz for communications with aeronautical stations pertaining to safety of flight with and in the vicinity of landing areas not served by a control tower.

Frequencies in the band 121.9375-122.6875 MHz may be used by aeronautical stations of the Federal Aviation Administration for communication with private aircraft stations only, except that 122.000 and 122.050 MHz may also be used for communication with air carrier aircraft stations concerning weather information.

US32--Except for the frequencies 123.3 and 123.5 MHz which are not authorized for Government use, the band 123.1125-123.5875 MHz is available for FAA Communications incident to flight test and inspection activities pertinent to aircraft and facility certification on a secondary non-interference basis.

US33--The band 123.1125-123.5875 MHz is for use by flight test and aviation instructional stations. The frequency 121.950 MHz is available for aviation instructional stations.

US41--The Government radiolocation service is permitted in the band 2450-2500 MHz on the condition that harmful interference is not caused to non-Government services.

US44--The non-Government radiolocation service may be authorized in the band 2900-3100 MHz on the condition that no harmful interference is caused to Government services.

US48--The non-Government radiolocation service may be authorized in the bands 5350-5460 MHz and 9000-9200 MHz on the condition that it does not cause harmful interference to the aeronautical radionavigation service or to the Government radiolocation service.

US49--The non-Government radiolocation service may be authorized in the band 5460-5470 MHz on the condition that it does not cause harmful interference to the aeronautical or maritime radionavigation services or to the Government radiolocation service.

US50--The non-Government radiolocation service may be authorized in the band 5470-5600 MHz on the condition that it does not cause harmful interference to the maritime radionavigation service or to the Government radiolocation service.

US51--In the bands 5600-5650 MHz and 9300-9500 MHz, the non-Government radiolocation service shall not cause harmful interference to the Government radiolocation service.

US53--In view of the fact that the band 13.25-13.4 GHz is allocated to doppler navigation aids, Government and non-Government airborne doppler radars in the aeronautical radionavigation service are permitted in the band 8750-8850 MHz only on the condition that they must accept any interference which may be experienced from stations in the radiolocation service in the band 8500-10000 MHz.

US54--Temporarily, and until certain operations of the radiolocation service in the band 9000-9200 MHz can be transferred to other appropriate frequency bands, the aeronautical radionavigation service may, in certain geographical areas, be subject to receiving some degree of interference from the radiolocation service.

US58--In the band 10000-10500 MHz, pulsed emissions are prohibited, except for weather radars on board meteorological-satellites in the band 10000-10025 MHz. The amateur service and the non-Government radiolocation service, which shall not cause harmful interference to the Government radiolocation service, are the only non-Government services permitted in this band. The non-Government radiolocation service is limited to survey operations as specified in footnote US108.

US59--The band 10.5-10.55 GHz is restricted to systems using type N0N emission with a power not to exceed 40 watts into the antenna.

US65--The use of the band 5460-5650 MHz by the maritime radionavigation service is limited to shipborne radars.

US66--The use of the band 9300-9500 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9300-9320 MHz on condition that harmful

interference is not caused to the maritime radionavigation service.

US67--The use of the band 9300-9500 MHz by the meteorological aids service is limited to ground based radars. Radiolocation installations will be coordinated with the meteorological aids service and, insofar as practicable, will be adjusted to meet the requirements of the meteorological aids service.

US69--In the band 31.8-33.4 GHz, ground-based radionavigation aids are not permitted except where they operate in co-operation with airborne or shipborne radionavigation devices.

US70--The meteorological aids service allocation in the band 400.15-406 MHz does not preclude the operation therein of associated ground transmitters.

US71--In the band 9300-9320 MHz, low-powered maritime radionavigation stations shall be protected from harmful interference caused by the operation of land-based equipment.

US74--In the bands 25.55-25.67, 73-74.6, 406.1-410, 608-614, 1400-1427, 1660.5-1670, 2690-2700, and 4990-5000 MHz and in the bands 10.68-10.7, 15.35-15.4, 23.6-24, 31.3-31.8, 86-92, 105-116, and 217-231 GHz, the radio astronomy service shall be protected from extraband radiation only to the extent such radiation exceeds the level which would be present if the offending station were operating in compliance with the technical standards or criteria applicable to the service in which it operates.

US77--Government stations may also be authorized:

(a) Port operations use on a simplex basis by coast and ship stations on the frequencies 156.6 and 156.7 MHz;

(b) Duplex port operations use of the frequency 157.0 MHz for ship stations and 161.6 MHz for coast stations;

(c) Intership use of 156.3 MHz on a simplex basis; and

(d) Vessel traffic services under the control of the U.S. Coast Guard on a simplex basis by coast and ship stations on the frequencies 156.25, 156.55, 156.6 and 156.7 MHz.

(e) Navigational bridge-to-bridge and navigational communications on a simplex basis by coast and ship stations on the frequencies 156.375 and 156.65 MHz.

US78--In the mobile service, the frequencies between 1435 and 1535 MHz will be assigned for aeronautical telemetry and associated telecommand operations for flight testing of manned or unmanned aircraft and missiles, or their major components. Permissible usage includes telemetry associated with launching and reentry into the earth's atmosphere as well as any incidental orbiting prior to reentry of manned objects undergoing flight tests. The following frequencies are shared with flight telemetering mobile stations: 1444.5, 1453.5, 1501.5, 1515.5, 1535.5 and 1525.5 MHz.

US80--Government stations may use the frequency 122.9 MHz subject to the following conditions:

(a) All operations by Government stations shall be restricted to the purpose for which the frequency is authorized to non-Government stations, and shall be in accordance with the appropriate provisions of the Commission's rules and regulations, Part 87, Aviation Services;

(b) Use of the frequency is required for coordination of activities with Commission licensees operating on this frequency; and

(c) Government stations will not be authorized for operations at fixed locations.

US81--The band 38-38.25 MHz is used by both Government and non-Government radio astronomy observatories. No new fixed or mobile assignments are to be made and Government stations in the band 38-38.25 MHz will be moved to other bands on a case-by-case basis, as required, to protect radio astronomy observations from harmful interference. As an exception however, low powered military transportable and mobile stations used for tactical and training purposes will continue to use the band. To the extent practicable, the latter operations will be adjusted to relieve such interference as may be caused to radio astronomy observations. In the event of harmful interference from such local operations, radio astronomy observatories may contact local military commands directly, with a view to effecting relief. A list of military commands, areas of coordination, and points of contact for purposes of relieving interference may be obtained upon request from the Office of the Chief Scientist, Federal Communications Commission, Washington, D.C. 20554.

US82--Until July 1, 1991, the assignable frequencies in the bands 4143.6-4146.6 kHz,
6218.6-6224.6 kHz, 8291.1-8297.3 kHz,
12429.2-12439.5 kHz, 16587.1-16596.4 kHz and 22124-22139.5 kHz may be authorized on a shared

non-priority basis to Government and non-Government ship and coast stations (SSB telephony, with peak envelope power not to exceed 1 kW). Effective July 1, 1991, the assignable frequencies in the bands 4146-4152 kHz, 6224-6233 kHz, 8294-8300 kHz, 12353-12368 kHz, 16528-16549 kHz, 18825-18846 kHz, 22159-22180 kHz, and 25100-25121 kHz may be authorized on a shared non-priority basis to Government and non-Government ship and coast stations (SSB telephony, with peak envelope power not to exceed 1 kW).

US87--The frequency 450 MHz, with maximum emission bandwidth of 500 kHz, may be used by Government and non-Government stations for space telecommand at specific locations, subject to such conditions as may be applied on a case-by-case basis.

US90--In the band 2025-2110 MHz Earth-to-space and space-to-space transmissions may be authorized in the space research and earth exploration-satellite services subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to non-Government stations operating in accordance with the Table of Frequency Allocations. All space-to-space transmission reaching the earth's surface shall adhere to a power flux density of between −144 and −154 dBw-/m^2/4 kHz depending on the angle of arrival per ITU Radio Regulation 2557 and shall not cause harmful interference to the other space services.

US93--In the conterminous United States, the frequency 108.0 MHz may be authorized for use by VOR test facilities, the operation of which is not essential for the safety of life or property, subject to the condition that no interference is caused to the reception of FM broadcasting stations operating in the band 88-108 MHz. In the event that such interference does occur, the licensee or other agency authorized to operate the facility shall discontinue operation on 108 MHz and shall not resume operation until the interference has been eliminated or the complaint otherwise satisfied. VOR test facilities operating on 108 MHz will not be protected against interference caused by FM broadcasting stations operating in the band 88-108 MHz nor shall the authorization of a VOR test facility on 108 MHz preclude the Commission from authorizing additional FM broadcasting stations.

US99--In the band 1668.4-1670 MHz, the meteorological aids service (radiosonde) will avoid operations to the maximum extent practicable. Whenever it is necessary to operate radiosondes in the band 1668.4-1670 MHz within the United States, notification of the operations shall be sent as far in advance as possible to the Electromagnetic Spectrum Management Unit, National Science Foundation, Washington, D.C. 20550.

US102--In Alaska only, the frequency 122.1 MHz may also be used for air carrier air traffic control purposes at locations where other frequencies are not available to air carrier aircraft stations for air traffic control.

US104--The LORAN Radionavigation System has priority in the band 90-110 kHz in the United States and Possessions. Radiolocation land stations making use of LORAN type equipment may be authorized to both Government and non-Government on a Secondary Service basis for offshore radiolocation activities only at specific locations and subject to such technical and operational conditions (e.g., power, emission, pulse rate and phase code, hours of operation), including on-the-air testing, as may be required on a case-by-case basis to ensure protection of the LORAN Radionavigation System from harmful interference and to ensure mutual compatibility among radiolocation operators. Such authorizations to stations in the radiolocation service are further subject to showing of need for service which is not currently provided and which the Government is not yet prepared to render by way of the radionavigation service.

US106--The frequency 156.75 MHz is available for assignment to non-Government and Government stations for environmental communications in accordance with an agreed plan.

US107--The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service for use by Government and non-Government ship and coast stations. Guard bands of 156.7625-156.7875 and 156.-8125-156.8375 MHz are maintained.

US108--Within the bands 3300-3500 MHz and 10000-10500 MHz, survey operations, using transmitters with a peak power not to exceed five watts into the antenna, may be authorized for Government and non-Government use on a secondary basis to other Government radiolocation operations.

US110--In the frequency bands 3100-3300 MHz,

3500-3700 MHz, 5250-5350 MHz, 8500-9000 MHz, 9200-9300 MHz, 9500-10000 MHz, 13.4-14.0 GHz, 15.7-17.3 GHz, 24.05-24.25 GHz and 33.4-36 GHz, the non-Government radiolocation service shall be secondary to the Government radiolocation service and to airborne doppler radars at 8800 MHz, and shall provide protection to airport surface detection equipment (ASDE) operating between 15.7-16.2 GHz.

US111--In the band 1990-2120 MHz, Government space research earth stations may be authorized to use specific frequencies at specific locations for earth-to-space transmissions. Such authorizations shall be secondary to non-Government use of this band and subject to such other conditions as may be applied on a case-by-case basis.

Corpus Christi, Tex., 27º 39'N 097º 23'W.
Fairbanks, Alaska, 64º 59' N 147º 53' W.
Goldstone, Calif., 35º 18' N 116º 54' W.
Greenbelt, Md., 39º 00' N 076º 50' W.
Guam, Mariana Is., 13º 19' N 144º 44' E.
Kauai, Hawaii, 22º 08' N 159º 40' W.
Merritt Is., Fla., 28º 29' N 080º 35' W.
Roseman, N.C., 35º 12' N 082º 52' W.
Wallops Is., Va., 37º 57' N 075º 28' W.

US112--The frequency 123.1 MHz is for search and rescue communications. This frequency may be assigned for air traffic control communications at special aeronautical events on the condition that no harmful interference is caused to search and rescue communications during any period of search and rescue operations in the locale involved.

US116--In the bands 890-902 MHz, 928-932 MHz, and 935-941 MHz, no new assignments are to be made to Government radio stations after July 10, 1970, except, on a case-by-case basis, to experimental stations and to additional stations of existing networks in Alaska. Government assignments existing prior to July 10, 1970 to stations in Alaska may be continued. All other existing Government assignments shall be on a secondary basis to stations in the non-Government land mobile service and shall be subject to adjustment or removal from the bands 890-902 MHz, 928-932 MHz, and 935-941 MHz, at the request of the FCC.

Bands (GHz)		Observatory
13 GHz	14 GHz	
X	X	National Astronomy and Ionosphere Center, Arecibo, Puerto Rico
X	X	National Radio Astronomy Observatory, Green Bank, West Virginia

US117--In the band 406.1-410 MHz, all new authorizations will be limited to a maximum 7 watts per kHz of necessary bandwidth; existing authorizations as of November 30, 1970 exceeding this power are permitted to continue in use.

New authorizations in this band for stations, other than mobile and transportable stations, within the following areas are subject to prior coordination by the applicant through the Electromagnetic Spectrum Management Unit, National Science Foundation, Washington, D.C. 20550 (202-357-9696):

Arecibo Observatory:
Rectangle between latitudes 17º 30' N and 19º 00' N and between longitudes 65º 10' W and 68º 00' W.

Owens Valley Radio Observatory:
Two contiguous rectangles, one between latitudes 36º N and 37º N and longitudes 117º 40' W and 118º 30' W and the second between latitudes 37º N and 38º N and longitudes 118º W and 118º 50' W.

Sagamore Hill Radio Observatory:
Rectangle between latitudes 42º 10' N and 43º 00' N and longitudes 70º 31' W and 71º 31' W.

Table Mountain Solar Observatory (NOAA) Boulder, Colorado (407-409 MHz only)
Rectangle between latitudes 39º 30' N and 40º 30' N and longitudes 104º 30' W and 106º 00' W or the Continental Divide whichever is farther east.

The non-Government use of this band is limited to the radio astronomy service and as provided by footnote US13.

US201--In the band 460-470 MHz, space stations in the earth exploration-satellite service may be authorized for space-to-Earth transmission on a secondary basis with respect to the fixed and mobile services. When operating in the meteorological-satellite service such stations shall be protected from harmful interference from other applications of the earth exploration-satellite service. The power flux density produced at the earth's surface by any space station in this band shall not exceed –152 dBW/m^2/4 kHz.

US203--Radio astronomy observations of the formaldehyde line frequencies 4825-4835 MHz and 14.470-14.500 GHz may be made at certain radio astronomy observatories as indicated below:

Bands to be Observed		Observatory
4 GHz	**14 GHz**	
X		National Astronomy and Ionospher Center, Arecibo, Puerto Rico
X	X	National Radio Astronomy Observatory, Green Bank, West Virginia
X	X	National Radio Astronomy Observatory, Socorro, New Mexico
X	X	Hat Creek Observatory (U. of Calif.), Hat Creek, California
X	X	Haystack Radio Observatory (MIT-Lincoln Lab) Tyngsboro, Massachusetts
X	X	Owens Valley Radio Observatory (Cal. Tech.), Big Pine, California
	X	Five College Radio Astronomy Observatory, Quabbin Reservoir (near Amherst) Massachusetts

Every practicable effort will be made to avoid the assignment of frequencies to stations in the fixed or mobile services in these bands. Should such assignments result in harmful interference to these observations, the situation will be remedied to the extent practicable.

US205--Tropospheric scatter systems are prohibited in the band 2500-2690 MHz.

US208--Planning and use of the band 1559- 1626.5 MHz necessitate the development of technical and/or operational sharing criteria to ensure the maximum degree of electromagnetic compatibility with existing and planned systems within the band.

US209--The use of frequencies 460.6625, 460.6875, 460.7125, 460.7375, 460.7625, 460.7875, 460.8125, 460.8375, 460.8625, 465.6625, 465.6875, 465.7125, 465.7375, 465.7625, 465.7875, 465.8125, 465.8375 and 465.8625 MHz may be authorized with 100 mW or less output power, to Government and non-Government radio stations for one-way, non-voice biomedical telemetry operations in hospitals, or in medical or convalescent centers.

US210--Use of frequencies in the bands 40.66-40.70 and 216-220 MHz may be authorized to Government and non-Government stations on a secondary basis for the tracking of, and telemetering of scientific data from, ocean buoys and wildlife. Airborne wildlife telemetry in the 216-220 MHz band will be limited to the 216.000-216.100 MHz portion of the band. Operation in these two bands is subject to the technical standards specified in (a) Section 8.2.42 of the NTIA Manual for Government use, or (b) in Section 5.108 of the Commission's Rules for non-Government.

US211--In the bands 1670-1690, 5000-5250 MHz, and 10.7-11.7, 15.1365-15.35, 15.4-15.7, 22.5-22.55, 24-24.05, 31.0-31.3, 31.8-32, 40.5-42.5, 84-86, 102-105, 116-126, 151-164, 176.5-182, 185-190, 231-235, 252-265 GHz, applicants for airborne or space station assignments are urged to take all practicable steps to protect radio astronomy observations in the adjacent bands from harmful interference; however, US74 applies.

US212--In the State of Alaska, the carrier frequency 5167.5 kHz (assigned frequency 5168.9 kHz) is designated for emergency communications. This frequency may also be used in the Alaska-Private Fixed Service for calling and listening, but only for establishing communications before switching to another frequency. The maximum power is limited to 150 watts peak envelope power (PEP).

US213--The frequency 122.925 MHz is for use only for communications with or between aircraft when coordinating natural resources programs of Federal or State natural resources agencies, including forestry management and fire suppression, fish and game management and protection and environmental monitoring and protection.

US214--The frequency 157.100 MHz is the primary frequency for liaison communications between ship stations and stations of the United States Coast Guard.

US215--Emissions from microwave ovens manufactured on and after January 1, 1980, for operation on the frequency 915 MHz must be confined within the band 902-928 MHz. Emissions from microwave ovens manufactured prior to January 1, 1980, for operation on the frequency 915 MHz must be confined within the band 902-940 MHz. Radiocommunications services operating within the band 928-940 MHz must accept any harmful interference that may be experienced from the operation of microwave ovens manufactured before January 1, 1980.

US216--The frequencies 150.775 and 150.790, and the bands 152-152.0150, 163.2375-163.2625, 462.-9375-463.1875, and 467.9375-468.1875 MHz are authorized for Government/non-Government operations in medical radio communications systems.

US217--Pulse-ranging radiolocation systems may be authorized for Government and non-Government use in the 420-450 MHz band along the shorelines of Alaska and the contiguous 48 States. Spread spectrum radiolocation systems may be authorized in the 420-435 MHz portion of the band for operation within the contiguous 48 States and Alaska. Authorizations will be granted on a case-by-case basis; however, operations proposed to be located within the zones set forth in US228 should not expect to be accommodated. All stations operating in accordance with this provision will be secondary to stations operating in accordance with the Table of Frequency Allocations.

US218--The band 902-928 MHz is available for Location and Monitoring Service (LMS) systems subject to not causing harmful interference to the operation of all Government stations authorized in these bands. These systems must tolerate interference from the operation of industrial, scientific, and medical (ISM) devices and the operation of Government stations authorized in these bands.

US219--In the band 2025-2110 MHz Government Earth Resources Satellite Earth Stations in the Earth Exploration-Satellite Service may be authorized to use the frequency 2106.4 MHz for Earth-to-space transmissions for tracking, telemetry, and telecommand at the sites listed below. Such transmissions shall not cause harmful interference to non-Government operations:

Sioux Falls, S.D., 43^{o} 32' 03.1" N 96^{o} 45' 42.8" W.

Fairbanks, Alaska, 64^{o} 58' 36.6" N 147^{o} 30' 54.2" W.

US220--The frequencies 36.25 and 41.71 MHz may be authorized to Government stations and non-Government stations in the Petroleum Radio Service, for oil spill containment and cleanup operations. The use of these frequencies for oil spill containment or cleanup operations is limited to the inland and coastal waterways regions.

US221--Use of the mobile service in the bands 525-535 kHz and 1605-1615 kHz is limited to distribution of public service information from Travelers Information stations operating on 530 kHz or 1610 kHz.

US222--In the band 2025-2035 MHz Geostationary Operational Environmental Satellite Earth stations in the Space Research and Earth Exploration-Satellite Services may be authorized on a co-equal basis to use the frequency band 2025-2035 MHz for Earth-to-space transmissions for tracking, telemetry, and telecommand at the sites listed below:

Wallops Is., Va., 37º50'48"N 75º27'33"W.
Seattle, Wa., 47º34'15"N 122º33'10"W.
Honolulu, Ha., 21º21'12"N 157º52'36"W.

US223--Within 120 kilometers (75 miles) of the United States/ Canada border on the Great Lakes, the Saint Lawrence Seaway, and the Puget Sound and the Strait of Juan de Fuca and its approaches, use of coast transmit frequency 162.025 MHz and ship station transmit frequency 157.425 MHz (VHF maritime mobile service channel 88) may be authorized for use by the maritime mobile service for public correspondence.

US224--Government systems utilizing spread spectrum techniques for terrestrial communication, navigation and identification may be authorized to operate in the band 960-1215 MHz on the condition that harmful interference will not be caused to the aeronautical radionavigation service. These systems will be handled on a case-by-case basis. Such systems shall be subject to a review at the national level for operational requirements and electromagnetic compatibility prior to development, procurement or modification.

US225--In addition to its present Government use, the frequency band 510-525 kHz is available to Government and non-Government aeronautical radionavigation stations inland of the Territorial Base Line[1] as coordinated with the military services. In addition, the frequency 510 kHz is available for non-Government ship-helicopter operations when beyond 185 kilometers (100 nautical miles) from shore and required for aeronautical radionavigation.

US226--In the State of Hawaii, stations in the aeronautical radionavigation service shall not cause harmful interference to U.S. Navy reception from its station at Honolulu on 198 kHz.

US228--Applicants of operation in the band 420 to 450 MHz under the provisions of US217 should not expect to be accommodated if their area of service is within the following geographic areas:

(a) Those portions of Texas and New Mexico bounded on the south by latitude 31º 45' North, on the east by longitude 104º 00' West, on the north by latitude 34º 30' North, and on the West by longitude 107º 30' West.

(b) The entire State of Florida including the Key West area and the areas enclosed within a 322 kilometer (200-mile) radius of Patrick Air Force Base, Florida (latitude 28º 21' North, longitude 80º 43' West), and within a 322 kilometer (200-mile) radius of Eglin Air Force Base, Florida (Latitude 30º 30' North, Longitude 86º 30' West).

(c) The entire State of Arizona;

(d) Those portions of California and Nevada south of latitude 37º 10' North, and the areas enclosed within a 322 kilometer (200-mile) radius of the Pacific Missile Test Center, Point Mugu, California (latitude 34º 09' North, longitude 119º 11' West).

(e) In the State of Massachusetts within a 160-kilometer (100-mile) radius around locations at Otis Air Force Base, Massachusetts (latitude 41º 45' North, longitude 70º 32' West).

(f) In the State of California within a 240-kilometer (150-mile) radius around locations at Beale Air Force Base, California (latitude 39º 08' North, longitude 121º 26' West).

(g) In the State of Alaska within a 160 kilometer (100-mile) radius of Clear, Alaska (latitude 64 degrees, 17' North, longitude 149 degrees 10' West).

(h) In the State of North Dakota within a 160-kilometer (100-mile) radius of Concrete, North Dakota (latitude 48 degrees 43' North, longitude 97 degrees 54' West).

(i) In the States of Alabama, Florida, Georgia and South Carolina within a 200- kilometer (124-mile) radius of Warner Robins Air Force Base, Georgia (latitude 32º 38' North, longitude 83º 35' West).

(j) In the State of Texas within a 200- kilometer (124-mile) radius of Goodfellow Air Force Base, Texas (latitude 31º 25' North, longitude 100º 24' West).

US229--Assignments to stations in the fixed and mobile services may be made on the condition that no harmful interference is caused to the Navy SPASUR

system currently operating in the southern United States in the frequency band 216.88-217.08 MHz.

US230--Non-government land mobile service is allocated on a primary basis in the bands 422.1875-425.4875 and 427.1875-429.9875 MHz within 80 kilometers (50 statute miles) of Detroit, MI, and Cleveland, OH, and in the bands 423.8125-425.-4875 and 428.8125-429.9875 MHz within 80 kilometers (50 statute miles) of Buffalo, NY.

US231--When an assignment cannot be obtained in the bands between 200 and 525 kHz, which are allocated to Aeronautical Radio-navigation, assignments may be made to aeronautical radiobeacons in the maritime mobile band 435-490 kHz, on a secondary basis, subject to the coordination and agreement of those agencies having assignments within the maritime mobile band which may be affected. Assignments to aeronautical radionavigation radiobeacons in the band 435-490 kHz shall not be a bar to any required changes to the Maritime Mobile Radio Service and shall be limited to Government not employing voice emissions.

US235--Until implementation procedures and schedules are determined by future conferences of the International Telecommunication Union, the bands 9775-9900, 11650-11700, 11975-12050, 13600-13800, 15450-15600, 17550-17700 and 21750-21850 kHz to be implemented by the broadcasting service are allocated as an alternative allocation to the fixed service. The bands 12230-12330, 16360-16460, 17360-17410, 18780-18900, 19680-19800, 22720-22855, 25110-25210, and 26100-26175 kHz to be implemented by the maritime mobile service are also allocated as an alternative allocation to the fixed service until July 1, 1991, when these bands are to be allocated exclusively to the maritime mobile service.

US236--Until implementation procedures and schedules are determined by future conferences of the International Telecommunication Union (see Resolution 319), the bands 4000-4063 and 8100-8195 kHz are also allocated on a primary basis to the fixed service.

US237--Until implementation procedures and schedules are determined by a future Regional Conference of the International Telecommunication Union, the band 1615-1625 kHz is also allocated on a primary basis to the radiolocation service.

US238--Until implementation procedures and schedules are determined by a future Regional Conference of the International Telecommunication Union, the band 1625-1705 kHz is allocated to the radiolocation service on a primary basis as a different category of service.

US239--Aeronautical radionavigation stations (radiobeacons) may be authorized, primarily for off-shore use, in the band 525-535 kHz on a non-interference basis to Travelers Information Stations.

US240--The bands 1715-1725 kHz and 1740-1750 kHz are allocated on a primary basis and the bands 1705-1715 kHz and 1725-1740 kHz on a secondary basis to the aeronautical radionavigation service, (radiobeacons).

US244--The band 136-137 MHz is allocated to the non-Government aeronautical mobile (R) service on a primary basis, and is subject to pertinent international treaties and agreements. The frequencies 136.000 MHz, 136.025 MHz, 136.050 MHz, 136.075 MHz, 136.125 MHz, 136.150 MHz, 136.175 MHz, 136.225 MHz, 136.250 MHz, 136.300 MHz, 136.325 MHz, 136.350 MHz, 136.400 MHz, 136.425 MHz and 136.450 MHz are available on a shared basis to the Federal Aviation Administration for air traffic control purposes, such as automatic weather observation services, automatic terminal information services and airport control tower communications. Stations licensed prior to January 2, 1990, using the 136-137 MHz band for space operations (space-to-Earth), meteorological-satellite service (space-to-Earth), and the space research service (space-to-Earth) may continue to use this band on a secondary basis to aeronautical mobile (R) service stations. No new assignments will be made to stations in the above space services.

US245--The Fixed-Satellite Service is limited to International inter-Continental systems and subject to case-by-case electromagnetic compatibility analysis.

US246--No stations will be authorized to transmit in the bands 608-614 MHz, 1400-1427 MHz, 1660.5-1668.4 MHz, 2690-2700 MHz, 4990-5000 MHz, 10.68-10.70 GHz, 15.35-15.40 GHz, 23.6-24.0 GHz, 31.3-31.8 GHz, 51.4-54.25 GHz, 58.2-59.0 GHz, 64-65 GHz, 86-92 GHz, 100-102 GHz, 105-116 GHz, 164-168 GHz, 182-185 GHz and 217-231 GHz.

US247--The band 10100-10150 kHz is allocated to the fixed service on a primary basis outside the United States and Possessions. Transmissions of stations in

the amateur service shall not cause harmful interference to this fixed service use and stations in the amateur service shall make all necessary adjustments (including termination of transmission) if harmful interference is caused.

US251--The band 12.75-13.25 GHz is also allocated to the Space Research Service (Deep Space) (space-to-Earth) for reception only at Goldstone, California. 35º18'N 116º54'W.

US252--The bands 2110-2120 and 7145-7190 MHz, 34.2-34.7 GHz are also allocated for Earth-to-space transmissions in the Space Research Service, limited to deep space communications at Goldstone, California.

US253--In the band 2300-2310 MHz, the fixed and mobile services shall not cause harmful interference to the amateur service.

US254--In the band 18.6-18.8 GHz, the fixed and mobile services shall be limited to a maximum equivalent isotopically radiated power of +35 dBw and the power delivered to the antenna shall not exceed −3 dBw.

US255--In the band 18.6-18.8 GHz, the fixed-satellite service shall be limited to a power flux density at the Earth's surface of −101 dbW/M^2 in a 200 MHz band for all angles of arrival.

US256--Radio astronomy observations may be made in the band 1718.8-1722.2 MHz on an unprotected basis. Agencies providing other services in this band in the geographic areas listed below should bear in mind that their operations may affect those observations, and those agencies are encouraged to minimize potential interference to the observations insofar as it is practicable.

Hat Creek Observatory Hat Creek, California	Rectangle between latitudes 40°00'N and 42°00'N and between latitudes 120°15'W and 122°15'W.
Owens Valley Radio Observatory Big Pine, California	Two contiguous rectangles, one between 36°00'N and 37°00'N and between longitudes 117°40'W and 118°-30'W and the second between latitudes 37°00N and 30°-00'N and between longitudes 118°00'W and 118°50'W.
Haystack Radio Observatory Tyngsboro, Massachusetts	Rectangle between latitudes 41°00'N and 43°00'N and between longitudes 71°00'W and 73°00'W.
National Astronomy and Ionosphere Center Arecibo, Puerto Rico	Rectangle between latitudes 17°30'N and 19°00'N and between longitudes 65°10'W and 68°00'W.
National Radio Astronomy Observatory Green Bank, West Virginia	Rectangle between latitudes 37°30'N and 39°15'N and between longitudes 78°30'W and 80°30'W.

US257--Radio astronomy observations may be made in the 4950-4990 MHz band at certain Radio Astronomy Observatories indicated below:

National Astronomy and Ionosphere Center Arecibo, Puerto Rico	Rectangle between Latitudes 17°30"n and 19°00'N and between latitudes 65°10'W and 68°00'W.
Haystack Radio Observatory Tyngsboro, Massachusetts	Rectangle between latitudes 41°00'N and 43°00'N and between longitudes 71°00'W and 73°00'W.
National Radio Astronomy Observatory Green Bank, West Virginia	Rectangle between latitudes 37°00N and 39°15'N and between longitudes 78°30'Nand 80°30'W.
National Radio Astronomy Observatory Socorro, New Mexico	Rectangle between latitudes 32°30'N and 35°30'N and between longitudes 106°00'W and 109°00'W.
Owens Valley Radio Observatory Big Pine, California	Two contiguous rectangles, one between latitudes 36°00'N and 37°00'N and between longitudes 117°40'W and 118°30'W and the second between latitudes 37°00'N and 38°00N and between longitudes 118°00'W and 118°50'W.
Hat Creek Observatory Hat Creek, California	Rectangle between latitudes 40°00'N and 42°00,N and between longitudes 120°15'W and 122°15'W.

Every practicable effort will be made to avoid the assignment of frequencies in the band 4950-4990 MHz to stations in the fixed and mobile services within the geographic areas given above. In addition,

every practicable effort will be made to avoid the assignment of frequencies in this band to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

US258--In the band 8025-8400 MHz, the non-Government earth exploration-satellite service (space-to-Earth) is allocated on a primary basis. Authorizations are subject to a case-by-case electromagnetic compatibility analysis.

US259--Stations in the radiolocation service in the band 17.3-17.7 GHz, shall be restricted to operating powers of less than 51 dBw eirp after feeder link stations for the broadcasting-satellite service are authorized and brought into use.

US260--Aeronautical mobile communications which are an integral part of aeronautical radionavigation systems may be satisfied in the bands 1559-1626.5 MHz, 5000-5250 MHz and 15.4-15.7 GHz.

US261--The use of the band 4200-4400 MHz by the Aeronautical Radionavigation service is reserved exclusively for airborne radio altimeters. Experimental stations will not be authorized to develop equipment for operational use in this band other than equipment related to altimeter stations. However, passive sensing in the Earth Exploration-Satellite and Space Research services may be authorized in this band on a secondary basis (no protection is provided from the radio altimeters).

US262--The band 31.8-32.3 GHz is also allocated for space-to-Earth transmissions in the Space Research Service, limited to deep space communications at Goldstone, California.

US263--In the frequency bands 21.2-21.4, 22.21-22.5, 36-37, 50.2-50.4, 54.25-58.2, 116-126, 150-151, 174.5-176.5, 200-202 and 235-238 GHz, the Space Research and the Earth Exploration-Satellite Services shall not receive protection from the Fixed and Mobile Services operating in accordance with the Table of Frequency Allocations.

US264--In the band 48.94-49.04 GHz, airborne stations shall not be authorized.

US265--In the band 10.6-10.68 GHz, the fixed service shall be limited to a maximum equivalent isotopically radiated power of 40 dBW and the power delivered to the antenna shall not exceed −3 dBW, per 250 kHz.

US266--Licensees in the Public Safety Radio Services holding a valid authorization on June 30, 1958, to operate in the frequency band 156.27-157.47 MHz or on the frequencies of 161.85, 161.91 or 161.97 MHz may, upon proper application, continue to be authorized for such operation, including expansion of existing systems, until such time as harmful interference is caused to the operation of any authorized station other than those licensed in the Public Safety Radio Service.

US267--In the band 902-928 MHz, amateur radio stations shall not operate within the States of Colorado and Wyoming, bounded by the area of: latitude 39° N to 42° N and longitude 103° W to 108° W.

US268--The bands 890-902 MHz and 928-942 MHz are also allocated to the radiolocation service for Government ship stations (off-shore ocean areas) on the condition that harmful interference is not caused to non-Government land mobile stations. The provisions of footnote US116 apply.

US269--In the band 2500-2690 MHz, applicants for space station assignments are urged to take all practicable steps to protect radio astronomy observations in the adjacent band, 2690-2700 MHz, from harmful interference. Further, all applicants are urged to coordinate their proposed systems through the Electromagnetic Spectrum Management Unit, National Science Foundation, Washington, D.C. 20550, prior to systems development.

US270--The band 72.77-72.91 GHz is also allocated to the radio astronomy service. Applicants for frequency assignments in this band are urged to take all practicable steps to protect radio astronomy observations from harmful interference.

US271--The use of the band 17.3-17.8 GHz by the Fixed-Satellite Service (Earth-to-space) is limited to feeder links for Broadcasting-Satellite Service.

US272--The allocation to the Maritime Mobile-Satellite Service in the band 1530-1535 MHz shall be effective from 1 January 1990. Up to that date the allocation to the Mobile Service will be on a primary basis.

US273--In the 74.6-74.8 MHz and 75.2-75.4 MHz bands, stations in the fixed and mobile services are limited to a maximum power of 1 watt from the

transmitter into the antenna transmission line.

US274--In the 216-220 MHz band, fixed, aeronautical mobile, and land mobile stations are limited to telemetering and associated telecommand operations.

US275--The band 902-928 MHz is allocated on a secondary basis to the amateur service subject to not causing harmful interference to the operations of Government stations authorized in this band or to Location and Monitoring Service (LMS) systems. Stations in the Amateur service must tolerate any interference from the operations of industrial, scientific and medical (ISM) devices, LMS systems, and the operations of Government stations authorized in this band. Further, the Amateur Service is prohibited in those portions of Texas and New Mexico bounded on the south by latitude 31° 41' North, on the east by longitude 104° 11' West, on the north by latitude 34° 30' North, and on the west by longitude 107° 30' West; in addition, outside this area but within 240 kilometers (150 miles) of these boundaries of White Sands Missile Range the service is restricted to a maximum transmitter peak envelope power output of 50 watts.

US276--Except as otherwise provided for herein, use of the band 2310-2390 MHz by the mobile service is limited to aeronautical telemetering and associated telecommand operations for flight testing of manned or unmanned aircraft, missiles or major components thereof. The following six frequencies are shared on a co-equal basis by Government and non-Government stations for telemetering and associated telecommand operations of expendable and re-usable launch vehicles whether or not such operations involve flight testing: 2312.5, 2332.5, 2352.5, 2364.5, 2370.5, and 2382.5 MHz. All other mobile telemetering uses shall be secondary to the above uses.

US277--The band 10.6-10.68 GHz is also allocated on a primary basis to the radio astronomy service. However, the radio astronomy service shall not receive protection from stations in the Fixed Service which are licensed to operate in the one hundred most populous urbanized areas as defined by the U.S. Census Bureau. The following radio astronomy sites have been coordinated for observations in this band: National Radio Astronomy Observatory, Green Bank, West Virginia (38 26 08N; 79 49 42W); National Radio Astronomy Observatory, Socorro, New Mexico (34 04 43N; 107 37 04W); Harvard Radio Astronomy Station, Fort Davis, Texas 30 38 08N; 103 56 42W); Hat Creek Observatory, Hat Creek, California (40 49 03N; 121 28 24W); Owens Valley Radio Observatory, Big Pine, California (37 13 54N; 118 17 36W); Naval Research Laboratory, Maryland Point, Maryland (38 22 26N; 77 14 00W).

US278--In the 22.55-23.55 and 32-33 GHz bands, non-geostationary inter-satellite links may operate on a secondary basis to geostationary inter-satellite links.

US279--The frequency 2182 kHz may be authorized to fixed stations associated with the maritime mobile service for the sole purpose of transmitting distress calls and distress traffic, and urgency and safety signals and messages.

US281--In the band 25.07-25.11 MHz, non-Government stations in the Industrial Radio Services shall not cause harmful interference to, and must accept interference from, stations in the Maritime Mobile Service operating in accordance with the International Table of Frequency Allocations.

US282--In the band 4650-4700 kHz, frequencies may be authorized for non-Government communication with helicopters in support of off-shore drilling operations on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

US283--In the bands 2850-3025 kHz, 3400-3500 kHz, 4650-4700 kHz, 5450-5680 kHz, 6525-6685 kHz, 10005-10100 kHz, 11275-11400 kHz, 13260-13360 kHz and 17900-17970 kHz frequencies in these bands may be authorized for non-Government flight test purposes on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

US284--Until July 1, 1991, the carrier frequencies 6451.9 and 6455.0 kHz may be authorized to non-Government ship telephone and coast telephone stations operating in the Mississippi River maritime mobile service system on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations and that any interference from such services must be accepted.

US285--Under exceptional circumstances, the carrier frequencies 2635, 2638, and 2738 kHz may be authorized to coast stations.

US287--The band 14-14.5 GHz is also allocated to

the non-Government land mobile-satellite service (Earth-to-space) on a secondary basis.

US290--In the band 1900-2000 kHz, amateur stations may continue to operate on a secondary basis to the Radiolocation Service, pending a decision as to their disposition through a future rule making proceeding in conjunction with implementation of the Standard Broadcasting Service in the 1625-1705 kHz band.

US291--Television pickup stations in the mobile service may be authorized to use frequencies in the band 38.6-40 GHz on a secondary basis to stations operating in accordance with the Table of Frequency Allocations.

US292--In the band 14.0-14.2 GHz stations in the radionavigation service shall operate on a secondary basis to the fixed-satellite service.

US294--In the spectrum below 490 kHz electric utilities operate Power Line Carrier (PLC) systems on power transmission lines for communications important to the reliability and security of electric service to the public. These PLC systems operate under the provisions of Part 15 of the Federal Communication Commission's Rules and Regulations or Chapter 7 of the National Telecommunications and Information Administration's Manual of Regulations and Procedures for Federal Radio Frequency Management, on an unprotected and noninterference basis with respect to authorized radio users. Notification of intent to place new or revised radio frequency assignments or PLC frequency uses in the bands below 490 kHz is to be made in accordance with the Rules and Regulations of the FCC and NTIA, and users are urged to minimize potential interference to the degree practicable. This footnote does not provide any allocation status to PLC radio frequency uses.

US296--Until July 1, 1991, in the bands designated for ship wideband telegraphy, facsimile and special transmission systems, the following assignable frequencies are available to non-Government stations on a shared basis with Government stations: 2070.5, 2072.5, 2074.5, 2076.5, 4160.5, 4168, 6238.6, 6242.6, 8326, 8341.5, 12485, 12489, 16654, 16658, 22186, and 22190 kHz.

Effective July 1, 1991, in the bands designated for ship wide-band telegraphy, facsimile and special transmission systems, the following assignable frequencies are available to non-Government stations on a shared basis with Government stations: 2070.5, 2072.5, 2074.5, 2076.5, 4154, 4170, 6235, 6259, 8302, 8338, 12370, 12418, 16551, 16615, 18848, 18868, 22182, 22238, 25123, and 25159 kHz.

US297--The bands 47.2-49.2 GHz and 74.0-75.5 GHz are also available for feeder links for the broadcasting-satellite service.

US298--Channels 27555, 27615, 27635, 27655, 27765, and 27860 KHz are available to eligibles in the Forest Products Radio Service on a secondary basis to Government operations including experimental stations. Operations in the Forest Products Radio Service on these channels will not exceed 150 watts and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

US299--Until implementation procedures and schedules are determined by a future Regional Conference of the International Telecommunication Union the frequency bands 1615-1625 and 1625-1705 kHz in Alaska are also allocated to the maritime mobile services and the Alaska fixed service.

US300--The frequencies 169.445, 169.505, 170.245, 170.305, 171.045, 171.105, 171.845 and 171.905 MHz are available for wireless microphone operations on a secondary basis to Government and non-Government operations.

US301--Except as provided in US302, broadcast auxiliary stations licensed as of November 21, 1984, to operate in the band 942-944 MHz may continue to operate on a co-equal primary basis to other stations and services operating in the band in accordance with the Table of Frequency Allocations.

US302--The band 942-944 MHz in Puerto Rico is allocated as an alternative allocation to the fixed service for broadcast auxiliary stations only.

US303--In the band 2285-2290 MHz, non-Government space stations in the space research, space operations and earth exploration-satellite services may be authorized to transmit to the Tracking and Data Relay Satellite System subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to authorized Government stations. The power flux density at the Earth's surface from such non-Government stations shall not exceed -144 to -154 dBW/m^2/4 kHz, depending on angle of arrival, in accordance with ITU Radio Regulation 2557.

US307--The sub-band 5150-5216 MHz is also allocated for space-to-Earth transmissions in the fixed-satellite service for feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1610-1626.5 MHz and 2483.5-2500 MHz. The total power flux density at the earth's surface shall in no case exceed −159 dBW/m^2 per 4 KHz for all angles of arrival.

US308--In the frequency bands 1549.5-1558.5 MHz and 1651-1660 MHz, the Aeronautical Mobile--Satellite (R) requirements that cannot be accommodated in the 1545-1549.5 MHz, 1558.5-1559 MHz, 1646.5-1651 MHz and 1660-1660.5 MHz bands shall have priority access with real-time preemptive capability for communications in the mobile-satellite service. Systems not interoperable with the aeronautical mobile-satellite (R) service shall operate on a secondary basis. Account shall be taken of the priority of safety-related communications in the mobile-satellite service.

US309--Transmissions in the bands 1545-1559 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links. Transmissions in the band 1646.5-1660.5 MHZ from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

US310--In the band 14.896-15.121 GHz, non-Government space stations in the space research service may be authorized on a secondary basis to transmit to Tracking and Data Relay Satellites subject to such conditions as may be applied on a case-by-case basis. Such transmissions shall not cause harmful interference to authorized Government stations. The power flux density at the earth's surface from such non-Government stations shall not exceed −138 to −148 dBW/m^2/4kHz, depending on the angle of arrival, in accordance with Recommendation ITU-R SA510-1(1994).

US311--Radio astronomy observations may be made in the 1350-1400 MHz band on an unprotected basis at certain Radio Astronomy Observatories indicated below:

National Astronomy and Ionosphere Center Arecibo, Puerto Rico	Rectangle between latitudes 17° 30'N and 19°00'N and between longitudes 65°10'W and 68°00'W.
National Radio Astronomy Observatory Socorro, New Mexico	Rectangle between latitudes 32°30'N and 35°30'N and between longitudes 106°00'W and 109° 00'W.
National Radio Astronomy Observatory Green Bank, West Virginia	Rectangle between latitudes 37° 30'N and 39°15'N and between longitudes 78°30'W and 80°30'W.

National Radio Astronomy Observatory Very Long Baseline Array Stations	80 kilometers (50 mile) radius centered on:	
	Latitude (North)	Longitude (West)
Pie Town, NM	34°18'	108°07'
Kitt Peak, AZ	31°57'	111°37'
Los Alamos, NM	35°47'	106°15'
Fort Davis, TX	30°38'	103°57'
North Liberty, IA	41°46'	91°34'
Brewster, WA	48°08'	119°41
Owens Valley, CA	37°14'	118°17'
Saint Croix, VI	17°46'	64°35'
Mauna Kea, HI	19°48'	155°27'
Hancock, NH	42°56'	71°59'

Every practicable effort will be made to avoid the assignment of frequencies in the band 1350-1400 MHz to stations in the fixed and mobile services which could interfere with radio astronomy observations within the geographic areas given above. In addition, every practicable effort will be made to avoid assignment of frequencies in this band to stations in the aeronautical mobile service which operate outside of those geographic areas, but which may cause harmful interference to the listed observatories. Should such assignments result in harmful interference to these observatories, the situation will be remedied to the extent practicable.

US312--The frequency 173.075 MHz may also be authorized on a primary basis to non-Government stations in the Police Radio Service (with a maximum authorized bandwidth of 20 kHz) for stolen vehicle recovery systems.

US315--In the frequency bands 1530-1544 MHz and 1626.5-1645.5 MHz maritime mobile-satellite distress and safety communications, e.g., GMDSS, shall have

priority access with real-time preemptive capability in the mobile-satellite service. Communications of mobile-satellite system stations not participating in the GMDSS shall operate on a secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of safety-related communications in the mobile-satellite service.

US316--The band 2900-3000 MHz is also allocated on a primary basis to the Meteorological Aids Service. Operations in this service are limited to Government Next Generation Weather Radar (NEXRAD) systems where accommodation in the 2700-2900 MHz band is not technically practical and are subject to coordination with existing authorized stations.

US317--The band 218.0-219.0 MHz is allocated on a primary basis to the Interactive Video and Data Operations.

US318--Until January 1, 2000, the use of the 137-138 MHz band by the mobile-satellite service will be secondary to Government operations within the subbands: 137.333-137.367, 137.485-137.515, 137.-605-137.635 and 137.753-137.787 MHz.

US319--In the 137-138, 148-149.9, 149.9-150.05, 399.9-400.05, 400.15-401, 1610-1626.5, and 2483.5-2500 MHz bands, Government stations in the mobile-satellite service shall be limited to earth stations operating with non-Government space stations.

US320--Use of the 137-138, 148-149.9, and 400.15-401 MHz bands by the mobile-satellite service is limited to non-voice, non-geostationary satellite systems and may include satellite links between land earth stations at fixed locations.

US322--The 149.9-150.05 MHz band is allocated to the mobile-satellite service (Earth-to-space) on a primary basis after January 1, 1997 and shall be limited to non-voice, non-geostationary satellite systems, including satellite links between land earth stations. Before January 1, 1997 use of this band on a secondary basis for the mobile satellite service is allowed for land earth stations at fixed locations.

US323--In the 148-149.9 MHz band, no individual mobile earth station shall transmit, on the same frequency being actively used by fixed and mobile stations and shall transmit no more than 1% of the time during any 15 minute period; except, individual mobile earth stations in this band that do not avoid frequencies actively being used by the fixed and mobile services shall not exceed a power density of -16 dBW/4kHz and shall transmit no more than 0.25% of the time during any 15 minute period. Any single transmission from any individual mobile earth station operating in this band shall not exceed 450 ms in duration and consecutive transmissions from a single mobile earth station on the same frequency shall be separated by at least 15 seconds. Land earth stations in this band shall be subject to electromagnetic compatibility analysis and coordination with fixed and mobile stations.

US324--Government and non-Government satellite systems in the 400.15-401 MHz band shall be subject to electromagnetic compatibility analysis and coordination.

US325--In the band 148-149.9 MHz fixed and mobile stations shall not claim protection from land earth stations in the mobile-satellite service that have been previously coordinated; Government fixed and mobile stations exceeding 27 dBW EIRP, or an emission bandwidth greater than 38 kHz, will be coordinated with existing mobile-satellite service space stations.

US326--The 399.9-400.05 MHz band is allocated to the mobile-satellite service (Earth-to-space) on a primary basis after January 1, 1997 and shall be limited to non-voice, non-geostationary satellite systems, including satellite links between land earth stations.

US327--The band 2310-2360 MHZ is allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528.

US328--In the band 2310-2360 MHZ, the mobile and radiolocation services are allocated on a primary basis until 1 January 1997 or until broadcasting-satellite (sound) service has been brought into use in such a manner as to affect or be affected by the mobile and radiolocation services in those service areas, whichever is later. The broadcasting-satellite (sound) service during implementation should also take cognizance of the expendable and reusable launch vehicle frequencies 2312.5, 2332.5, and 2352.5 MHZ, to minimize the impact on this mobile service use to the extent possible.

US331--In the frequency band 1850-1990 MHz, the only fixed PCS services permitted are ancillary ser-

vices used in support of mobile personal communications services.

US334--In the band 17.8-20.2 GHz, Government space stations and associated earth stations in the fixed-satellite (space-to-Earth) service may be authorized on a primary basis. For a Government geostationary satellite network to operate on a primary basis, the space station shall be located outside the arc measured from East to West, 70° W to 120° W. Coordination between Government fixed-satellite systems and non-Government systems operating in accordance with the United States Table of Frequency Allocations is required.

International Footnotes

(These footnotes come from the Radio Regulations, Geneva 1982)

444--Administrations authorizing the use of frequencies below 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated (see No. 1816).

445--Administrations conducting scientific research using frequencies below 9 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference.

446--*Additional allocation*: in Bulgaria, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the band 14-17 kHz is also allocated to the radio navigation service on a permitted basis. **(WARC-92)**

447--The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Bulgaria, Mongolia, Czechoslovakia and the U.S.S.R., the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. **(WARC-92)**

448--The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorized subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.**(Mob-87)**

449--*Additional allocation*: in Bulgaria, Poland, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the band 67-70 kHz is also allocated to the radionavigation service on a permitted basis. **(WARC-92)**

450--Different category of service: in Bangladesh, Iran and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile service is on a primary basis (see No. 425).

451--In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.**(Mob-87)**

452--In Region 2, the establishment and operation of stations in the maritime radionavigation service in the band 70-90 kHz and 110-130 kHz shall be subject to agreement obtained under the procedure set forth in Article 14 with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

453--Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.

453A--In the band 90-110 kHz, the United Kingdom may continue to use its coast radiotelegraph stations in operation on 14 September 1987, on a secondary basis.**(Mob-87)**

454--Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime mobile service.

455--Different category of service: in Bangladesh,

Iran and Pakistan, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. 425).

456--*Different category of service*: in the Federal Republic of Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 425) and to the radionavigation service on a secondary basis (see No. 424).

457--*Additional allocation*: in Bulgaria, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 130-148.5 kHz is also allocated to the radio-navigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate.**(WARC-92)**

459--In the Region 2 polar areas (north of 60°N and south of 60°S), which are subject to auroral disturbances, the aeronautical fixed service is the primary service in the band 160-190 kHz.

460--*Alternative allocation*: in Angola, Botswana, Burundi, the Congo, Malawi, Rwanda, South Africa and Zaire, the band 160-200 kHz is allocated to the fixed service on a primary basis.

461--*Additional allocation*: in Somalia, the band 200-255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.

462--*Alternative allocation*: in Angola, Botswana, Burundi, Cameroon, the Central African Republic, the Congo, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zaire, Zambia and Zimbabwe, the band 200-283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis.

463--*Different category of service*: in Sudan and Yemen (P.D.R. of), the allocation of the band 255-283.5 kHz to the aeronautical radionavigation service is on a primary basis (see No. 425).

464--*Alternative allocation*: in Tunisia, the band 255-283.5 kHz is allocated to the broadcasting service on a primary basis.

465--Norwegian stations of the fixed service situated in northern areas (north of 60°N) subject to auroral disturbances are allowed to continue operation on four frequencies in the bands 283.5-490 kHz and 510-526.5 kHz.

466--In the band 285-325 kHz (283.5-325 kHz in Region 1), in the maritime radionavigation service, radiobeacon stations may also transmit supplementary navigational information using narrowband techniques, on condition that the prime function of the beacon is not significantly degraded.

466A--*Additional Allocation*: in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a permitted basis.**(Mob-87)**

467--*Different category of service*: in the U.S.S.R. and the Black Sea areas of Bulgaria, Romania and Turkey, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis (see No. 425) under the following conditions:

(a) in the Black Sea and White Sea areas, the maritime radionavigation service is the primary service and the aeronautical radionavigation service is the permitted service;

(b) in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned.

468--The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.

469--*Different category of service*: in Afghanistan, Australia, China, the French Overseas Territories of Region 3, India, Indonesia, the Islamic Republic of Iran, Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415-495 kHz to the aeronautical radionavigation service is on a permitted basis. Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435-495 kHz do not cause interference to reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a world-wide basis (see No. 4237).**(Mob-87)**

469A--*Different category of service*: in Cuba, the United States of America, and Mexico the allocation of the band 415-435 kHz to the aeronautical radionavigation service is on a primary basis. **(Mob-87)**

470--The use of the bands 415-495 kHz and 505-

526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotele-graphy.

470A--In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission. **(Mob-87)**

471--The bands 490-495 kHz and 505-510 kHz shall be subject to the provisions of No. 3018 until the entry into force of the reduced guardband in accordance with Resolution 210 (Mob-87).

472--The frequency 500 kHz is the international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles 37, 38, N 38 and 60. **(Mob-87)**

472A--In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Mob-87)), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrowband direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles N 38 and 60, and Resolution 329 (Mob-87). In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. **(Mob-87)**

474--The conditions for the use of frequency 518 kHz by the maritime mobile service are prescribed in Articles 38, N38 and 60 (see Resolution 324 (Mob-87) and Article 14A). **(Mob-87)**

476--*Additional allocation*: in the United Kingdom, the band 519.5-526.5 kHz is also allocated to the broadcasting service on a secondary basis for the transmission of public utility information.

477--In Region 2, in the band 525-535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

478--*Additional allocation*: in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis.

479--*Additional allocation*: in China, the band 526.5-535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.

480--In Region 2, the use of the band 1605-1705 kHz by stations of the broadcasting service is subject to the plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988.)

In Region 2, in the band 1625-1705 kHz, the relationship between the broadcasting, fixed and mobile services is shown in No. 419. However, the examination of frequency assignments to stations of the fixed and mobile services in the band 1625-1705 kHz under No. 1241 shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988) **(Orb-88)**

480A--In the band 1605-1705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.**(Mob-87)**

482--*Additional allocation*: in Australia, Indonesia, New Zealand, the Philippines, Singapore, Sri Lanka and Thailand, the band 1606.5- 1705 kHz is also allocated to the broadcasting service on a secondary basis.

483--*Different category of service*: in Bulgaria, Hungary, Mongolia, Nigeria, Poland, the German Democratic Republic, Chad, Czechoslovakia and the U.S.S.R., the allocation of the bands 1606.5-1625 kHz, 1635-1800 kHz and 2107-2160 kHz to the fixed and land mobile services is on a primary basis (see No. 425).

484--Some countries of Region 1 use radiodetermination systems in the bands 1606.5-1625 kHz, 1635-1800 kHz, 1850-2160 kHz, 2194-2300 kHz, 2502-2850 kHz and 3500-3800 kHz. The establishment and operation of such systems are subject to agreement obtained under the procedures set forth in Article 14. The radiated mean power of these stations shall not exceed 50 W.

485--*Additional allocation*: in Angola, Bulgaria, Hungary, Mongolia, Nigeria, Poland, the German Democratic Republic, Chad, Czechoslovakia and the U.S.S.R., the bands 1625-1635 kHz, 1800-1810 kHz and 2160-2170 kHz are also allocated to the fixed and land mobile services on a primary basis subject to agreement obtained under the procedure set forth in Article 14.

486--In Region 1, in the bands 1625-1635 kHz, 1800-1810 kHz and 2160-2170 kHz (except in the countries listed in No. 485 and those listed in No. 499 for the band 2160-2170 kHz), existing stations in the

fixed and mobile except aeronautical mobile, services (and stations of the aeronautical mobile (OR) service in the band 2160-2170 kHz) may continue to operate on a primary basis until satisfactory replacement assignments have been found and implemented in accordance with Resolution 38.

487--In Region 1, the establishment and operation of stations of the radiolocation service in the bands 1625-1635 kHz, 1800-1810 kHz and 2160-2170 kHz shall be subject to agreement obtained under the procedure set forth in Article 14 (see also No. 486). The radiated mean power of radiolocation stations shall not exceed 50 W. Pulse systems are prohibited.

488--In the Federal Republic of Germany, Denmark, Finland, Hungary, Ireland, Israel, Jordan, Malta, Norway, Poland, the German Democratic Republic, the United Kingdom, Sweden, Czechoslovakia and the U.S.S.R., administrations may allocate up to 200 kHz to their amateur service in the bands 1715-1800 kHz and 1850-2000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultations with administrations of neighboring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W.

489--In Region 3, the Loran system operates either on 1850 kHz or 1950 kHz, the bands occupied being 1825-1875 kHz and 1925-1975 kHz, respectively. Other services to which the band 1800-2000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1850 kHz or 1950 kHz. **(Mob-87)**

490--*Alternative allocation*: in the Federal Republic of Germany, Angola, Austria, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Spain, Ethiopia, France, Greece, Italy, the Lebanon, Luxembourg, Malawi, the Netherlands, Portugal, Syria, the German Democratic Republic, Somalia, Tanzania, Tunisia, Turkey and the U.S.S.R., the band 1810-1830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

491--*Additional allocation*: in Saudi Arabia, Iraq, Israel, Libya, Poland, Romania, Chad, Czechoslovakia, Togo and Yugoslavia, the band 1810-1830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

492--In Region 1, the use of the band 1810-1850 kHz by the amateur service is subject to the condition that satisfactory replacement assignments have been found and implemented in accordance with Resolution 38, for frequencies to all existing stations of the fixed and mobile, except aeronautical mobile, services operating in this band (except for the stations of the countries listed in Nos. 490, 491 and 493). On completion of satisfactory transfer, the authorization to use the band 1810-1830 kHz by the amateur service in countries situated totally or partially north of 40°N shall be given only after consultation with the countries mentioned in Nos. 490 and 491 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 490 and 491.

493--*Alternative allocation*: in Burundi and Lesotho, the band 1810-1850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

494--*Alternative allocation*: in Argentina, Bolivia, Chile, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 1850-2000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis.

495--In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1850-2045 kHz, 2194-2498 kHz, 2502-2625 kHz and 2650-2850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

496--In Region 1, the use of the band 2025-2045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

497--In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2065-2107 kHz shall be limited to class R3E or J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2065.0 kHz, 2079.0 kHz, 2082.5 kHz, 2086.0 kHz, 2093.0 kHz, 2096.5 kHz, 2100.0 kHz and 2103.5 kHz. In Argentina, Brazil and Uruguay, the carrier frequencies 2068.5 kHz and 2075.5 kHz are also used for this purpose, while the fre-

quencies within the band 2072-2075.5 kHz are used as provided in No. 4323 BD. **(Mob-87)**

498--In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2065 kHz and 2107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the International Frequency Registration Board should be drawn to these provisions.

499--*Additional allocation*: in Saudi Arabia, Botswana, Ethiopia, Iraq, Lesotho, Libya, Malawi, Somalia, Swaziland and Zambia, the band 2160-2170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W.

500--The carrier frequency 2182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2173.5-2190.5 kHz are prescribed in Articles 37, 38, N 38 and 60. **(Mob-87)**

500A--The frequencies 2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz and 16804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article N 38. **(Mob-87)**

500B--The frequencies 2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz and 16695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. The conditions for the use of these frequencies are prescribed in Article N 38. **(Mob-87)**

501--The carrier frequencies 2182 kHz, 3023 kHz, 5680 kHz, 8364 kHz, and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Articles 38 and N 38.

The same applies to the frequencies 10003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of ±3 kHz about the frequency. **(Mob-87)**

502--*Alternative allocation*: in Belgium, Cyprus, Denmark, Spain, France, Greece, Iceland, Italy, Malta, Norway, the Netherlands, Portugal, the United Kingdom, Singapore, Sri Lanka, Sweden, Turkey and Yugoslavia, the band 2194-2300 kHz is allocated to the maritime mobile service on a primary basis and to the fixed and land mobile services on a permitted basis.

503--For the conditions for the use of the bands 2300-2495 kHz (2498 kHz in Region 1), 3200-3400 kHz, 4750-4995 kHz and 5005-5060 kHz by the broadcasting service, see Nos. 406 to 410, 411 and 2666 to 2673.

504--*Alternative allocation*: in Belgium, Cyprus, Denmark, Spain, France, Greece, Iraq, Italy, Malta, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Turkey and Yugoslavia, the band 2502-2625 kHz is allocated to the maritime mobile service on a primary basis and to the fixed and land mobile services on a permitted basis.

505--The carrier (reference) frequencies 3023 kHz and 5680 kHz may also be used, in accordance with Articles 38 and N 38, by stations of the maritime mobile service engaged in coordinated search and rescue operations. **(Mob-87)**

506--Administrations are urged to authorize the use of the band 3155-3195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3155 kHz and 3400 kHz to suit local needs.

It should be noted that frequencies in the range 3000 kHz to 4000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

507--*Alternative allocation*: in Belgium, Cameroon, Cyprus, the Ivory Coast, Denmark, Egypt, Spain, France, Greece, Iceland, Italy, Liberia, Malta, Norway, the Netherlands, the United Kingdom, Singapore, Sri Lanka, Sweden, Togo, Turkey and Yugoslavia, the band 3155-3200 kHz is allocated to the maritime mobile service on a primary basis and to the fixed and land mobile services on a permitted basis.

508--*Additional allocation*: in Australia, Brazil, Canada, the United States, Japan, Mexico, New Zealand, Peru and Uruguay, the band 3230-3400 kHz is also allocated to the radiolocation service on a secondary basis.

509--*Additional allocation*: in Honduras, Mexico, Peru and Venezuela, the band 3500-3750 kHz is also

allocated to the fixed and mobile services on a primary basis.

510--For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 MHz, 24.89 MHz and 144 MHz in the event of natural disasters, see Resolution 640.

511--*Additional allocation*: in Brazil, the band 3700-4000 kHz is also allocated to the radiolocation service on a primary basis.

512--*Alternative allocation*: in Argentina, Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3750-4000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

513--*Alternative allocation*: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3900-3950 kHz is allocated to the broadcasting service on a primary basis. The use of this band by the broadcasting service is subject to agreement obtained under the procedure set forth in Article 14 with neighboring countries having services operating in accordance with the Table.

514--*Additional allocation*: in Canada, the band 3950-4000 kHz is also allocated to the broadcasting service on a primary basis. The power of broadcasting stations operating in this band shall not exceed that necessary for a national service within the frontier of this country and shall not cause harmful interference to other services operating in accordance with the Table.

515--*Additional allocation*: in Greenland, the band 3950-4000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

516--In Region 3, the stations of those services to which the band 3995-4005 kHz is allocated may transmit standard frequency and time signals.

517--The use of the band 4000-4063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 4374 and Appendix 16). **(Mob-87)**

518--In Afghanistan, Argentina, Australia, Botswana, Burkina Faso, China, India, Niger, Central African Republic, Chad and the U.S.S.R., in the bands 4063-4123 kHz, 4130-4133 kHz and 4408-4438 kHz, stations of limited power in the fixed service which are situated at least 600 km from the coast may operate on condition that harmful interference is not caused to the maritime mobile service. **(WARC-92)**

519--On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4063-4123 kHz and 4130-4438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

520--The conditions for the use of the carrier frequencies 4125 kHz and 6215 kHz are prescribed in Articles 37, 38, N 38 and 60. **(Mob-87)**

520A--The frequency 4209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques (see Resolution 332 (Mob-87)).

520B--The frequencies 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz and 26100.5 kHz are the international frequencies for the transmission of Maritime Safety Information (MSI) (see Resolution 333 (Mob-87) and Appendix 31).

521--*Different category of service*: in the U.S.S.R., the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 425).

521A--The use of the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz by the broadcasting service is limited to single-sideband emissions with the characteristics specified in Appendix 45 to the Radio Regulations. **(WARC-92)**

521B--The use of the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz by the broadcasting service shall be subject to the planning procedures to be drawn up by a competent world administrative radio conference. **(WARC-92)**

521C--The band 5900-5950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the

land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a primary basis, and in Region 3 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21. After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. **(WARC-92)**

522--On condition that harmful interference is not caused to the maritime mobile service, the bands 6200-6213.5 kHz and 6220.5-6525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the International Frequency Registration Board will be drawn to the above conditions.

524--The band 6 765-6 795 kHz (center frequency 6 780 kHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant CCIR Recommendations.

525--*Different category of service*: in Mongolia and the U.S.S.R., the allocation of the band 6765-7000 kHz to the land mobile service is on a primary basis (see No. 425).

526--*Additional allocation*: in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7000-7050 kHz is also allocated to the fixed service on a primary basis.

527--*Alternative allocation*: in Egypt, Ethiopia, Guinea, Libya, Madagascar, Malawi and Tanzania, the band 7000-7050 kHz is allocated to the fixed service on a primary basis.

528--The use of the band 7 100-7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

528A--The band 7300-7350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21. After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administration are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. **(WARC-92)**

529--In Region 3, the stations of those services to which the band 7995-8005 kHz is allocated may transmit standard frequency and time signals.

529A--The conditions for the use of the carrier frequencies 8291 kHz, 12290 kHz and 16420 kHz are prescribed in Articles 38, N 38 and 60. **(Mob-87)**

529B--The bands 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 15600-15800 kHz, 17480-17550 kHz and 18900-19020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21. After 1 April 2007, frequencies in this band may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. **(WARC-92)**

530--On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz and 11975-12050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each station using a total radiated power not exceeding 24 dBW.

531--The bands 9775-9900 kHz, 11650-11700 kHz, 11975-12050 kHz, 13600-13800 kHz, 15450-15600

kHz, 17550-17700 kHz and 21750-21850 kHz are allocated to the fixed service on a primary basis subject to the procedure described in Resolution 8. The use of these bands by the broadcasting service shall be subject to provisions established by the World Administrative Radio Conference for the Planning of HF Bands Allocated to the Broadcasting Service (see Resolution 508). The provisions of Resolution 512 (HFBC-87) also apply. Within these bands, the date of commencement of operations in the broadcasting service on a planned channel shall not be earlier than the date of completion of satisfactory transfer, according to the procedures described in Resolution 8, of all assignments to stations in the fixed service operating in accordance with the Table and other provisions of the Radio Regulations, which are recorded in the Master Register and which may be affected by broadcasting operations on that channel. **(HFBC-87)**

533--In making assignments to stations of other services to which the band 13 360-13 410 kHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

534--The band 13 553-13 567 kHz (center frequency 13 560 kHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

534A--The bands 13570-13600 kHz and 13800-13870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21. After 1 April 2007, frequencies in these bands may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations. **(WARC-92)**

535--*Additional allocation*: in Afghanistan, China, the Ivory Coast, Iran and the U.S.S.R., the band 14 250-14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW.

536--In Region 3, the stations of those services to which the band 15 995-16 005 kHz is allocated may transmit standard frequency and time signals.

538--*Additional allocation*: in the U.S.S.R., the band 18 068-18 168 kHz is also allocated to the fixed service on a primary basis for use within the boundary of the U.S.S.R., with a peak envelope power not exceeding 1 kW.

539--*Alternative allocation*: in Bulgaria, Hungary, Mongolia, Poland, Czechoslovakia and the U.S.S.R., the band 21 850-21 870 kHz is allocated to the aeronautical fixed and the aeronautical mobile (R) services on a primary basis.

540--*Additional allocation*: in Nigeria, the band 22 720-23 200 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.

541--The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to intership radiotelegraphy.

542--*Additional allocation*: in Kenya, the band 23 600-24 900 kHz is also allocated to the meteorological aids service (radiosondes) on a primary basis.

545--The band 25 550-25 600 kHz is allocated to the fixed and mobile, except aeronautical mobile, service on a primary basis subject to the procedure described in Resolution 8. The use of this band by the radio astronomy service shall be subject to the completion of the satisfactory transfer of all assignments to stations in the fixed and mobile, except aeronautical mobile, services operating in this band and recorded in the Master Register, in accordance with the procedure described in Resolution 8. The band 25 600-25 670 kHz is allocated to the broadcasting service on a primary basis, subject to provisions to be established by the world administrative radio conference for the planning of HF bands allocated to the broadcasting service (see Resolution 508). After completion of all the above-mentioned provisions, all emissions capable of causing harmful interference to the radio astronomy service in the band 25 550-25

670 kHz shall be avoided. The use of passive sensors by other services will also be authorized.

546--The 26 957-27 283 kHz (center frequency 27 120 kHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

547--In making assignments to stations of other services to which the band 37.5-38.25 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

548--The band 40.66-40.70 MHz (center frequency 40.68 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

549--*Additional allocation*: in Botswana, Burundi, Lesotho, Malawi, Namibia, Rwanda, South Africa, Swaziland, Zaire, Zambia and Zimbabwe the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

550--*Additional allocation*: in Iran and Japan, the band 41-44 MHz is also allocated to the radiolocation service on a secondary basis.

552--*Additional allocation*: in Australia and New Zealand, the band 44-47 MHz is also allocated to the broadcasting service on a primary basis.

553--*Additional allocation*: in Hungary, Kenya, Mongolia, Czechoslovakia and theU.S.S.R., the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis.

554--*Additional allocation*: in Albania, the Federal Republic of Germany, Austria, Belgium, Côte d'Ivoire, Denmark, Spain, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, the German Democratic Republic, the United Kingdom, Senegal, Sweden, Switzerland, Swaziland, Syria, Togo, Tunisia, Turkey, and Yugoslavia, the band 47-68 MHz and in Romania, the band 47-58 MHz, are also allocated to the land mobile service on a permitted basis. However, stations of the land mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations of countries other than those mentioned in connection with the band. **(Mob-87)**

555--*Additional allocation*: in Angola, Cameroon, the Congo, Madagascar, Mozambique, Somalia, Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a permitted basis. **(WARC-92)**

556--*Alternative allocation*: in New Zealand, the band 50-51 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis, the band 53-54 MHz is allocated to the fixed and mobile services on a primary basis.

557--*Alternative allocation*: in Afghanistan, Bangladesh, Brunei, India, Indonesia, Iran, Malaysia, Pakistan, Singapore and Thailand, the band 50-54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis.

558--*Additional allocation*: in Australia, China and the Democratic People's Republic of Korea, the band 50-54 MHz is also allocated to the broadcasting service on a primary basis.

559--*Alternative allocation*: in Botswana, Burundi, Lesotho, Malawi, Namibia, Rwanda, South Africa, Swaziland, Zaire, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis.

560--*Additional allocation*: in New Zealand, the band 51-53 MHz is also allocated to the fixed and mobile services on a primary basis.

561--*Additional allocation*: in Botswana, Burundi, Lesotho, Malawi, Mali, Namibia, Rwanda, South Africa, Swaziland, Zaire, Zambia and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

562--*Different category of service*: in the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54-68 MHz to the fixed and mobile services is on a primary basis (see No. 425).

563--*Different category of service*: in Cuba, the French Overseas Departments in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68-72 MHz to the fixed and mobile services is on a primary basis (see No. 425).

564--*Alternative allocation*: in Bulgaria, Hungary, Poland, Romania and Czechoslovakia, the band 68-73 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions in the Final Acts of the Special Regional Conference, Geneva, 1960.

565--*Alternative allocation*: in Mongolia and the U.S.S.R., the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in Mongolia and the U.S.S.R. are subject to agreements with the neighboring countries concerned.

566--*Addition allocation*: in Australia, China, the Republic of Korea, the Philippines, the Democratic People's Republic of Korea and Western Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis.

567--*Additional allocation*: in Bulgaria, Hungary, Mongolia, Poland, Czechoslovakia and theU.S.S.R., the band 73-74 MHz is also allocated to the broadcasting service on a primary basis. The use of this band by the broadcasting service in Bulgaria, Hungary, Mongolia, Poland, Czechoslovakia and the U.S.S.R. is subject to agreement obtained under the procedure set forth in Article 14.

568--In making assignments to stations of other services to which the band 73-74.6 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

570--*Additional allocation*: in Colombia, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Guyana, Honduras and Nicaragua, the band 73-74.6 MHz is also allocated to the fixed and mobile services on a secondary basis.

571--*Additional allocation*: in Bulgaria, China, Mongolia, Poland, Czechoslovakia and the U.S.S.R., the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. **(WARC-92)**

572--The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.

Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.8 MHz and 75.2 MHz. **(WARC-92)**

572A--*Additional allocation*: in Afghanistan, the Federal Republic of Germany, Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Syria, and Turkey, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article 14. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of Article 14.**(Mob-87)**

573--*Additional allocation*: in Western Samoa, the band 75.4-87 MHz is also allocated to the broadcasting service on a primary basis.

574--*Additional allocation*: in China, the Republic of Korea, Japan, the Philippines and the Democratic People's Republic of Korea, the band 76-87 MHz is also allocated to the broadcasting service on a primary basis.

575--*Additional allocation*: in Bulgaria, Hungary, Poland, Romania and Czechoslovakia, the band 76-87.5 MHz is also allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference, Geneva, 1960.

576--*Different category of service*: in the United States, the French Overseas Departments in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76-88 MHz to the fixed and mobile services is on a primary basis (see No. 425).

577--In Region 3 (except in the Republic of Korea, India, Japan, Malaysia, the Philippines, Singapore and Thailand), the band 79.75-80.25 MHz is also allocated to the radio astronomy service on a primary basis. In making assignments to stations of other services, administrations are urged to take all practicable steps in the band to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

578--*Alternative allocation*: in Albania, the band 81-87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference, Geneva, 1960.

579--*Additional allocation*: in Afghanistan and Australia, the band 85-87 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service in these countries is subject to special agreements between the administrations concerned.

580--*Alternative allocation*: in New Zealand, the band 87-88 MHz is allocated to the land mobile service on a primary basis.

581--*Additional allocation*: in the Federal Republic of Germany, France, Ireland, Israel, Italy, Liechtenstein, Monaco, the United Kingdom and Switzerland, the band 87.5-88 MHz is also allocated to the land mobile service on a permitted basis and subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

584--Broadcasting stations in the band 100-108 MHz in Region 1 shall be established and operated in accordance with an agreement and associated plan for the band 87.5-108 MHz to be drawn up by a regional broadcasting conference (see Resolution 510). Prior to the date of entry into force of this agreement, broadcasting stations may be introduced subject to agreement between administrations concerned, on the understanding that such an operation shall in no case prejudice the establishment of the plan.

585--*Additional allocation*: In China, the Republic of Korea, the Philippines and Singapore, the band 100-108 MHz is also allocated to the fixed and mobile services on a permitted basis.

586--*Alternative allocation*: in New Zealand, the band 100-108 MHz is allocated to the land mobile service on a primary basis and to the broadcasting service on a secondary basis.

587--*Additional allocation*: in Bulgaria, Israel, Kenya, Lebanon, Mongolia, Syria, the German Democratic Republic, the United Kingdom, Somalia, Czechoslovakia, Turkey, and the U.S.S.R., the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis, until 31 December 1995 and, thereafter, on a secondary basis. **(WARC-92)**

588--*Additional allocation*: in Finland and Yugoslavia, the band 104-108 MHz is also allocated to the fixed service on a permitted basis, until 31 December 1995. The effective radiated power of any station shall not exceed 25 W.

589--*Additional allocation*: in France, Romania, Sweden, and Yugoslavia, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a permitted basis until 31 December 1995. **(Mob-87)**

590A--*Additional allocation*: in Afghanistan, the Federal Republic of Germany, Austria, Cyprus, Denmark, Egypt, Spain, France, Israel, Italy, Japan, Jordan, Lebanon, Malta, Morocco, Monaco, Norway, Pakistan, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Turkey, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article 14. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of Article 14. **(Mob-87)**

591--Subject to agreement obtained under the procedure set forth in Article 14, the band 117.975-137 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis and on the condition that harmful interference is not caused to the aeronautical mobile (R) service.

592--The bands 121.45-121.55 MHz and 242.95-243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Nos. 3259 and 3267). **(Mob-83)**

593--In the band 117.975-136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Articles 38 and N 38 for distress and safety purposes with stations of the aeronautical mobile service.**(Mob-87)**

594--*Additional allocation*: in Angola, Bulgaria, Hungary, Iran, Iraq, Japan, Mongolia, Mozambique, Papua New Guinea, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 132-136 MHz is also allocated to the aeronautical mobile (OR) service on a permitted basis.

594A--*Different category of service*: as from 1 January 1990, in Bulgaria, Poland, the German Democratic Republic, Romania, Czechoslovakia, Turkey, and the USSR, the allocation of the band 136-137 MHz to the aeronautical mobile (OR) service is on a permitted basis.**(Mob-87)**

595--Until 1 January 1990, the band 136-137 MHz is also allocated to the space operation service (space-to-Earth), meteorological-satellite service (space-to-Earth) and the space research service (space-to-Earth) on a primary basis. The introduction of stations of the aeronautical mobile (R) service shall only occur after that date. After 1 January 1990, the band 136-137 MHz will also be allocated to the above-mentioned space radiocommunication services on a secondary basis (see Resolution 408 (Mob-87)).

596--*Different category of service*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran, Iraq, Malaysia, Oman, Pakistan, Philippines, Qatar, Singapore, Sri Lanka, Thailand, Yemen and Yugoslavia, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. 425). **(WARC-92)**

597--*Different category of service*: in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 425). **(WARC-92)**

598--*Different category of service*: in Austria, Bulgaria, Egypt, Finland, France, Greece, Hungary, the Lebanon, Mongolia, Poland, the German Democratic Republic, Romania, Syria, Czechoslovakia and the U.S.S.R., the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. 425). **(WARC-92)**

599--*Additional allocation*: in Australia, the band 137-144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within regional broadcasting allocations.

599A--The use of the band 137-138 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution 46. However, coordination of a space station of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced by the station exceeds -125 dB-(W/m^2/4 kHz) at the Earth's surface. The above power flux-density limit shall apply until such time as a competent world administrative radio conference revises it. In making assignments to the space stations in the mobile-satellite service in the above band, administrations shall take all practicable steps to protect the radio astronomy service in the 150.05-153 MHz band from harmful interference from unwanted emissions. **(WARC-92)**

599B--The use of the bands 137-138 MHz, 148-149.9 MHz and 400.15-401 MHz by the mobile-satellite service and the band 149.9-150.05 MHz by the land mobile-satellite service is limited to non-geostationary-satellite systems. **(WARC-92)**

600--*Additional allocation*: in the Federal Republic of Germany, Austria, Belgium, France, Israel, Italy, Liechtenstein, Luxembourg, the United Kingdom, Sweden, Switzerland and Czechoslovakia, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis.

601--*Additional allocation*: in the Federal Republic of Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, Liechtenstein, Luxembourg, Mali, Malta, Norway, the Netherlands, Qatar, the United Kingdom, Somalia, Sweden, Switzerland, Tanzania, Tunisia, Turkey and Yugoslavia, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis.

602--*Alternative allocation*: in Angola, Botswana,

Burundi, Cameroon, the Central African Republic, the Congo, Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Nigeria, Oman, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zaire, Zambia and Zimbabwe, the band 138-144 MHz is allocated to the fixed and mobile services on a primary basis.

603--*Additional allocation*: in China, the band 138-144 MHz is also allocated to the radiolocation service on a primary basis.

604--*Additional allocation*: in Ethiopia, Finland, Kenya, Malta, Somalia, Sudan, Tanzania, and Yugoslavia, the band 138-144 MHz is also allocated to the fixed service on a primary basis. **(WARC-92)**

605--*Additional allocation*: in Singapore, the band 144-145 MHz is also allocated to the fixed and mobile services on a primary basis. Such use is limited to systems in operation on or before 1 January 1980, which in any case shall cease by 31 December 1995.

606--*Additional allocation*: In China, the band 144-146 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.

607--*Alternative allocation*: in Afghanistan, Bangladesh, Cuba, Guyana and India, the band 146-148 MHz is allocated to the fixed and mobile services on a primary basis.

608--Subject to agreement obtained under the procedure set forth in Article 14, the band 148-149.9 MHz may be used by the space operation service (Earth-to-space). The bandwidth of an individual transmission shall not exceed ±25 kHz.

608A--The use of the band 148-149.9 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). The mobile-satellite service shall not constrain the development and use of fixed, mobile and space operation services in the band 148-149.9 MHz. Mobile earth stations in the mobile-satellite service shall not produce a power flux-density in excess of -150 dB(W/m^2/4 kHz) outside national boundaries. **(WARC-92)**

608B--The use of the band 149.9-150.05 MHz by the land mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). The land mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the band 149.9-150.05 MHz. Land mobile earth stations of the land mobile-satellite service shall not produce power flux-density in excess of -150 dB(W/m^2/4 kHz) outside national boundaries. **(WARC-92)**

608C--Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from stations of the fixed or mobile services in the following countries: Algeria, the Federal Republic of Germany, Saudi Arabia, Australia, Austria, Bangladesh, Belarus, Belgium, Brunei Darussalam, Bulgaria, Cameroon, Canada, Cyprus, Colombia, Congo, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Spain, Ethiopia, the Russian Federation, Finland, France, Ghana, Greece, Honduras, Hungary, Iran, Ireland, Iceland, Israel, Italy, Japan, Jordan, Kenya, Libya, Liechtenstein, Luxembourg,Malaysia, Mali, Malta, Mauritania, Mozambique, Namibia, Norway, New Zealand, Oman, Pakistan, Panama, Papua New Guinea, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Romania, the United Kingdom, Singapore, Sri Lanka, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, the Czech and Slovak Federal Republic, Thailand, Tunisia, Turkey, Ukraine, Yemen and Yugoslavia that operate in accordance with the Table of Frequency Allocations. **(WARC-92)**

609--Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.

609A--Recognizing that the use of the band 149.9-150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorize such use in application No. 342. **(Mob-87)**

609B--In the band 149.9-150.05 MHz, the allocation to the land mobile-satellite service shall be on a secondary basis until 1 January 1997. **(WARC-92)**

610--In making assignments to stations of other services to which the band 150.05-153 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or air-borne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

611--*Additional allocation*: in Australia and India, the

band 150.05-153 MHz is also allocated to the radio astronomy service on a primary basis.

613--The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article 38 and N 38.

In the bands 156-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by that administration (see Articles 38, N38 and 60).

Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.

However, the frequency 156.8 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements. **(Mob-87)**

613A--In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling (see Resolution 323 (Mob-87)). The conditions for the use of these frequency are prescribed in Articles 38, N38 and 60 and in Appendix 18. **(Mob-87)**

613B--*Additional allocation*: in Ireland and in the United Kingdom, the band 161.3875-161.4125 MHz is also allocated to the maritime radionavigation service on a primary basis, subject to agreement obtained under the procedure set forth in Article 14.**(Mob-87)**

615--*Alternative allocation*: in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

616--*Additional allocation*: in China, the band 163-167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis subject to agreement obtained under the procedure set forth in Article 14.

617--*Additional allocation:* in Afghanistan, China and Pakistan, the band 167-174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighboring countries in Region 3 whose services are likely to be affected.

618--*Additional allocation*: in Japan, the band 170-174 MHz is also allocated to the broadcasting service on a primary basis.

619--*Additional allocation*: in China, the band 174-184 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis subject to agreement obtained under the procedure set forth in Article 14. These services shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

620--*Different category of service*: in Mexico, the allocation of the band 174-216 MHz to the fixed and mobile services is on a primary basis (see No. 425).

621--*Additional allocation*: in the Federal Republic of Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174-223 MHz is also allocated to the land mobile service on a permitted basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote. **(WARC-92)**

622--*Different category of service*: in the Federal Republic of Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Luxembourg, Malta, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden and Switzerland, the band 223-230 MHz is allocated to the land mobile service on a permitted basis (see No. 425). However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote. **(WARC-92)**

623--*Additional allocation*: in the Congo, Ethiopia,

Gambia, Guinea, Kenya, Libya, Malawi, Mali, Uganda, Senegal, Sierra Leone, Somalia, Tanzania and Zimbabwe, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis.

624--*Additional allocation*: in Bangladesh, India, Pakistan and the Philippines, the band 200-216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

625--*Additional allocation*: in Australia and Papua New Guinea, the bands 204-208 MHz and 222-223 MHz are also allocated to the aeronautical radionavigation service on a primary basis.

626--*Additional allocation*: in China, India and Thailand, the band 216-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

627--In Region 2, no new stations in the radiolocation service may be authorized in the band 216-225 MHz. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis. **(WARC-92)**

627A--*Additional allocation*: in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary basis. **(Mob-87)**

628--*Additional allocation*: in Somalia, the band 216-225 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to not causing harmful interference to existing or planned broadcasting services in other countries.

629--*Additional allocation*: in Oman, the United Kingdom and Turkey, the band 216-235 MHz is also allocated to the radiolocation service on a secondary basis.

630--*Additional allocation*: in Japan, the band 222-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

631--*Different category of service*: in Spain and Portugal, the band 223-230 MHz is allocated to the fixed service on a permitted basis (see No. 425). Stations of this service shall not cause harmful interference to, or claim protection from, broadcasting stations of other countries, whether existing or planned, that operate in accordance with the Table.

632--*Additional allocation*: in Saudi Arabia, Bahrain, the United Arab Emirates, Israel, Jordan, Oman, Qatar and Syria, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a permitted basis.

635--*Alternative allocation*: in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 223-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

636--*Alternative allocation*: in New Zealand, Western Samoa and the Niue and Cook Islands, the band 225-230 MHz is allocated to the fixed, mobile and aeronautical radionavigation services on a primary basis.

637--*Additional allocation*: in China, the band 225-235 MHz is also allocated to the radio astronomy service on a secondary basis.

638--*Additional allocation*: in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under the procedure set forth in Article 14.

639--*Additional allocation*: in Yugoslavia, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, until 1 January 1995. The use of this band by the aeronautical radionavigation service in Yugoslavia is restricted to the stations in operation by 1 January 1980.

640--*Additional allocation*: in New Zealand, the band 235-239.5 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

641--Subject to agreement obtained under the procedure set forth in Article 14, the bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table.

641A--The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to the application of the coordination and notification procedures set forth in Resolution 46. **(WARC-92)**

642--The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Article 38). **(Mob-87)**

643--Subject to agreement obtained under the

procedure set forth in Article 14, the band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis.

644--In making assignments to stations of other services to which the band 322-328.6 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

645--Limited to Instrument Landing Systems (glide path).

645A--*Additional allocation*: in Afghanistan, the Federal Republic of Germany, Austria, Belgium, Cyprus, Denmark, Egypt, Spain, France, Greece, Israel, Italy, Japan, Jordan, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Turkey, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis subject to agreement obtained under the procedure set forth in Article 14. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of Article 14. **(Mob-87)**

645B--Recognizing that the use of the band 399.9-400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorize such use in application of No. 342. **(Mob-87)**

646--Emissions shall be confined in a band of ± 25 kHz about the standard frequency 400.1 MHz.

647--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Hungary, Indonesia, Iran, Iraq, Israel, Jordan, Kuwait, Liberia, Malaysia, Nigeria, Oman, Pakistan, the Philippines, Poland, Qatar, Syria, the German Democratic Republic, Romania, Singapore, Somalia, Sri Lanka, Czechoslovakia, Thailand, the U.S.S.R. and Yugoslavia, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. **(WARC-92)**

647A--The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service. **(WARC-92)**

647B--The use of the band 400.15-401 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution 46. However, coordination of a space station of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced by the station exceeds -125 dB-(W/m^2/4 kHz) at the Earth's surface. The above power flux-density limit shall apply until such time as a competent world administrative radio conference revises it. In making assignments to the space stations in the mobile-satellite service in the above band, administrations shall take all practicable steps to protect the radio astronomy service in the band 406.1-410 MHz from harmful interference from unwanted emissions. **(WARC-92)**

648--*Additional allocation*: in Canada, the bands 405.5-406 MHz and 406.1-410 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite, service (Earth-to-space), on a primary basis, subject to agreement obtained under the procedure set forth in Article 14.

649--The use of the band 406-406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radiobeacons (see also Articles 38 and N 38). **(Mob-87)**

649A--Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited. **(Mob-87)**

650--In making assignments to stations of other services to which the band 406.1-410 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

651--*Different category of service*: in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. 425).

651A--Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle.**(WARC-92)**

652--*Additional allocation*: in Australia, the United States, Jamaica and the Philippines, the bands 420-430 MHz and 440-450 MHz are also allocated to the amateur service on a secondary basis.

653--*Additional allocation*: in China, India, the German Democratic Republic, the United Kingdom and the U.S.S.R., the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis.

654--*Different category of service*: in France, the allocation of the band 430-434 MHz to the amateur service is on a secondary basis (see No. 424).

655--*Different category of service*: in Denmark, Libya, Norway and Sweden, the allocation of the bands 430-432 MHz and 438-440 MHz to the radiolocation service is on a secondary basis (see No 424).

656--*Alternative allocation*: in Denmark, Norway and Sweden, the bands 430-432 MHz and 438-440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

657--*Additional allocation*: in Finland, Libya and Yugoslavia, the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile except aeronautical mobile, services on a primary basis.

658--*Additional allocation*: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Ethiopia, Greece, Guinea, India, Indonesia, Iran, Iraq, Israel, Italy, Jordan, Kenya, Kuwait, the Lebanon, Libya, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Singapore, Somalia, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430-440 MHz is also allocated to the fixed service on a primary basis and the bands 430-435 MHz and 438-440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. **(WARC-92)**

659--*Additional allocation*: in Angola, Bulgaria, Cameroon, the Congo, Djibouti, Gabon, Hungary, Malawi, Mali, Mongolia, Niger, Pakistan, Poland, the German Democratic Republic, Democratic People's Republic of Korea, Romania, Rwanda, Chad, Czechoslovakia and the U.S.S.R., the band 430-440 MHz is also allocated to the fixed service on a primary basis. **(WARC-92)**

660--*Different category of service*: in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 430-440 MHz to the amateur service is on a primary basis (see No. 425).

660A--*Additional allocation*: in Mexico, the bands 430-435 MHz and 438-440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under the procedure set forth in Article 14. **(Mob-87)**

661--In Region 1, except in the countries mentioned in No. 662, the band 433.05-434.79 MHz (center frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant CCIR Recommendations.

662--In the Federal Republic of Germany, Austria, Liechtenstein, Portugal, Switzerland and Yugoslavia, the band 433.05-434.79 MHz (center frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

663--*Additional allocation*: in the French Overseas Departments in Region 2, and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis. **(WARC-92)**

664--In the bands 435-438 MHz, 1260-1270 MHz, 2400-2450 MHz, 3400-3410 MHz (in Regions 2 and 3 only) and 5650-5670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 435). Administrations authorizing such use shall ensure that any harmful interference caused by emissions from a station in the

amateur-satellite service is immediately eliminated in accordance with the provisions of No. 2741. The use of the bands 1260-1270 MHz and 5650-5670 MHz by the amateur-satellite service is limited to the Earth-to--space direction.

665--*Additional allocation*: in Austria, the band 438-440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

666--*Additional allocation*: in Canada, New Zealand and Papua New Guinea, the band 440-450 MHz is also allocated to the amateur service on a secondary basis.

667--*Different category of service*: in Canada, the allocation of the band 440-450 MHz to the radio-location service is on a primary basis (see No. 425).

668--Subject to agreement obtained under the procedure set forth in Article 14, the band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space).

669--In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by onboard communication stations. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Appendix 20.

670--In the territorial waters of Canada, the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Appendix 20.

671--Earth exploration-satellite service applications, other than the meteorological-satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.

672--*Different categories of service*: in Afghanistan, Bulgaria, China, Cuba, Japan, Mongolia, Poland, Czechoslovakia and the U.S.S.R., the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to-Earth) is on a primary basis (see No. 425) and is subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

673--*Additional allocation*: in China, the band 470-485 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis subject to agreement obtained under the procedure set forth in Article 14, subject to not causing harmful interference to existing and planned broadcasting stations.

674--*Different category of service*: in Mexico and Venezuela, the allocation of the band 470-512 MHz to the fixed and mobile services, and in Argentina and Uruguay to the mobile service, is on a primary basis (see No. 425), subject to agreement obtained under the procedure set forth in Article 14. **(Mob-87)**

675--*Different category of service*: in Chile, Colombia, Cuba, Ecuador, the United States, Guyana, Honduras, Jamaica, Mexico and Panama, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed and mobile services is on a primary basis (see No. 425), subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

676--*Additional allocation*: in Burundi, Cameroon, the Congo, Ethiopia, Israel, Kenya, Lebanon, Libya, Malawi, Senegal, Sudan, Syria, and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. **(WARC-92)**

677--*Alternative allocation*: in Pakistan, the bands 470-582 MHz and 610-890 MHz are allocated to the broadcasting service on a primary basis.

677A--*Additional allocation*: in the Federal Republic of Germany, Austria, Belgium, Cyprus, Denmark, Spain, Finland, France, Ireland, Israel, Italy, Libya, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Swaziland, Syria, Tunisia and Turkey, the band 470-790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries mentioned in this footnote, shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote. **(Mob-87)**

678--*Additional allocation*: in Costa Rica, Cuba, El Salvador, Ecuador, the United States, Guatemala, Guyana, Honduras, Jamaica, Mexico and Venezuela,

the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

679--*Additional allocation*: in India, the band 549.75-550.25 MHz is also allocated to the space operation service (space-to-Earth) on a secondary basis.

683--*Additional allocation*: in Oman, the band 582-606 MHz is also allocated to the radionavigation service on a secondary basis.

684--*Additional allocation*: in Israel, Libya, Syria and Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

685--*Additional allocation*: in Denmark and Kuwait, the band 590-598 MHz is also allocated to the aeronautical radionavigation service on a primary basis until 1 January 1995.

686--*Additional allocation*: in the United Kingdom, the band 590-598 MHz is also allocated to the aeronautical radionavigation service on a primary basis. All new assignments to stations in the aeronautical radionavigation service, including those transferred from the adjacent bands, shall be subject to coordination with the Administrations of the following countries: the Federal Republic of Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands.

686A--*Additional allocation*: in the United Kingdom, the band 598-606 MHz is also allocated to the aeronautical radionavigation service on a primary basis until 31 December 1994. All new assignments to stations in the aeronautical radionavigation service in this band are subject to the agreement of the Administrations of the following countries: the Federal Republic of Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands.**(Mob-87)**

687--*Additional allocation*: in the African Broadcasting Area (see Nos. 400 to 403), the band 606-614 MHz is also allocated to the radio astronomy service on a permitted basis.

688--*Additional allocation*: in China, the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

689--In Region 1, except in the African Broadcasting Area (see Nos. 400 to 403), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis. In making assignments to stations of other services to which the band is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

690--*Additional allocation*: in India, the band 608-614 MHz is also allocated to the radio astronomy service on a primary basis.

691--*Additional allocation*: in New Zealand, the band 610-620 MHz is also allocated to the amateur service on a secondary basis.

692--*Different category of service*: in Costa Rica, El Salvador and Honduras, the allocation of the band 614-806 MHz to the fixed service is on a primary basis (see No. 425), subject to agreement obtained under the procedure set forth in Article 14.

692A--*Additional allocation*: in Cuba, the band 614-890 MHz is also allocated to the radionavigation service on a primary basis, subject to agreement obtained under the procedure set forth in Article 14.**(Mob-87)**

693--Within the frequency band 620-790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see Resolutions 33 and 507). Such stations shall not produce a power flux-density in excess of the value -129 dB (W/m^2) for angles of arrival less than 20^o (see Recommendation 705) within the territories of other countries without the consent of the administrations of those countries.

694--*Additional allocation*: in Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 645-862 MHz is also allocated to the aeronautical radionavigation service on a permitted basis.

695--*Alternative allocation*: in Spain and France, the band 790-830 MHz is allocated to the broadcasting service on a primary basis.

695A--*Additional allocation*: in Austria, Italy, the United Kingdom and Swaziland, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis.**(Mob-87)**

696--*Alternative allocation*: in Greece, Italy, Morocco and Tunisia, the band 790-838 MHz is allocated to the broadcasting service on a primary basis.

697--*Additional allocation*: in the Federal Republic of Germany, Burkina Faso, Cameroon, Cote d'Ivoire, Denmark, Egypt, Finland, Israel, Kenya, Libya, Liechtenstein, Monaco, Norway, the Netherlands, Portugal, Sweden, Switzerland and Yugoslavia, the band 790-830 MHz, and in these same countries and in Spain, France, Malta, the Gabonese Republic and Syria, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band.**(WARC-92)**

700--*Additional allocation*: in Region 2, the band 806-890 MHz is also allocated to the mobile-satellite service on a primary basis. The use of this service is intended for operation within national boundaries and subject to agreement obtained under the procedure set forth in Article 14.**(Mob-87)**

700A--*Additional allocation*: in Canada, the United States and Mexico, the bands 849-851 MHz and 894-896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 849-851 MHz is limited to transmissions from aeronautical stations and the use of the band 894-896 MHz is limited to transmissions from aircraft stations.**(WARC-92)**

700B--*Additional allocation*: in Belarus, the Russian Federation and Ukraine, the bands 806-840 MHz (Earth-to-space) and 856-890 MHz (space-to-Earth) are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R) service. The use of these bands by this service shall not cause harmful interference to, or claim protection from, services in other countries operating in accordance with the Table of Frequency Allocations and is subject to special agreements between the administrations concerned.**(WARC-92)**

701--*Additional allocation*: in Region 3, the bands 806-890 MHz and 942-960 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service on a primary basis. The use of this service is limited to operation within national boundaries and subject to agreement obtained under the procedure set forth in Article 14. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table, to ensure that no harmful interference is caused to such services.**(Mob-87)**

702--*Alternative allocation*: in Italy, the band 838-854 MHz is allocated to the broadcasting service on a primary basis as from 1 January 1995.

703--In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. 400 to 403) excluding Algeria, Egypt, Spain, Libya and Morocco, subject to agreement obtained under the procedure set forth in Article 14.**(WARC-92)**

704--*Additional allocation*: in Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 862-960 MHz is also allocated to the aeronautical radionavigation service on a permitted basis until 1 January 1998. Up to this date, the aeronautical radionavigation service may use the band, subject to agreement obtained under the procedure set forth in Article 14. After this date, the aeronautical radionavigation service may continue to operate on a secondary basis.

704A--*Additional allocation*: in Brazil, Canada and the United States of America, the band 890-896 MHz is also allocated to the mobile-satellite service on a primary basis. The use of this service is intended for operations within national boundaries and subject to agreement obtained under the procedure set forth in Article 14. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table.

705--*Different category of service*: in the United States, the allocation of the band 890-942 MHz to the radiolocation service is on a primary basis (see No. 425) and subject to agreement obtained under the procedure set forth in Article 14. **(Mob-87)**

706--*Different category of service*: in Australia, the allocation of the band 890-942 MHz to the radiolocation service is on a primary basis (see No. 425).

707--In Region 2, the band 902-928 MHz (center frequency 915 MHz) is designated for industrial, scientific and medical (ISM) applications.

Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

707A--*Different category of service*: in Chile, the band 903-905 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis and is subject to agreement obtained under the procedure set forth in Article 14.**(Mob-87)**

709--The band 960-1 215 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated groundbased facilities.

710--Use of the radionavigation-satellite service in the band 1 215-1 260 MHz shall be subject to the condition that no harmful interference is caused to the radionavigation service authorized under No. 712.

711--*Additional allocation*: in Afghanistan, Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, the United Arab Emirates, Ethiopia, Guinea, Guyana, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kuwait, the Lebanon, Libya, Malawi, Morocco, Mozambique, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Somalia, Sudan, Sri Lanka, Chad, Thailand, Togo and Yemen (P.D.R. of), the band 1215-1300 MHz is also allocated to the fixed and mobile services on a primary basis.

712--*Additional allocation*: in Algeria, the Federal Republic of Germany, Austria, Bahrain, Belgium, Benin, Burundi, Cameroon, China, Denmark, the United Arab Emirates, France, Greece, India, Iran, Iraq, Kenya, Liechtenstein, Luxembourg, Mali, Mauritania, Norway, Oman, Pakistan, the Netherlands, Portugal, Qatar, Senegal, Somalia, Sudan, Sri Lanka, Sweden, Switzerland, Tanzania, Turkey and Yugoslavia, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis.

712A--*Additional allocation*: in Cuba, the band 1215-1300 MHz is also allocated to the radionavigation service on a primary basis subject to the agreement obtained under the procedure set forth in Article 14.**(Mob-87)**

713--In the bands 1215-1300 MHz, 3100-3300 MHz, 5250-5350 MHz, 8550-8650 MHz, 9500-9800 MHz and 13.4-14.0 GHz, radiolocation stations installed on spacecraft may also be employed for the earth exploration-satellite and space research services on a secondary basis.

714--*Additional allocation*: in Canada and the United States, the bands 1240-1300 MHz and 1350-1370 MHz are also allocated to the aeronautical radionavigation service on a primary basis.

715--*Additional allocation*: in Indonesia, the band 1300-1350 MHz is also allocated to the fixed and mobile services on a primary basis.

716--*Alternative allocation*: in Ireland and the United Kingdom, the band 1 300-1 350 MHz is allocated to the radiolocation service on a primary basis.

717--The use of the bands 1300-1350 MHz, 2700-2900 MHz and 9000-9200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

718--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the band 1 330-1 400 MHz. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

719--In Bulgaria, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the existing installations of the radionavigation service may continue to operate in the band 1350-1400 MHz. **(WARC-92)**

720--The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration-satellite (passive) services on a secondary basis.

721--All emissions in the band 1 400-1 427 MHz are prohibited.

722--In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extra-terrestrial origin.

722A--Use of the band 1452-1492 MHz by the broadcasting-satellite service and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528.**(WARC-**

92)

722B--*Different category of service*: in the Federal Republic of Germany, Bangladesh, Botswana, Bulgaria, Burkina Faso, Colombia, Cuba, Denmark, Egypt, Ecuador, Spain, Greece, Hungary, Ireland, Italy, Jordan, Kenya, Malawi, Mozambique, Panama, Poland, Portugal, United Kingdom, Sri Lanka, Sweden, Swaziland, Czech and Slovak Federal Republic, Yemen, Yugoslavia and Zimbabwe, the allocation of the band 1452-1492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007.**(WARC-92)**

722C--*Alternative allocation*: in the United States of America, the band 1452-1525 MHz is allocated to the fixed and mobile services on a primary basis (See also No. 723) **(WARC-92)**

723--In Region 2, in Australia and Papua New Guinea, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

723A--*Different category of service*: in Cuba, the band 1525-1530 MHz is allocated to the aeronautical mobile service on a primary basis, under the conditions specified in No. 723.**(Mob-87)**

723B--*Additional allocation*: in Belarus, the Russian Federation and Ukraine, the band 1429-1535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purpose of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1452-1492 MHz is subject to agreement between the administrations concerned. **(WARC-92)**

723C--The use of the band 1492-1525 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). However, with the exception of the situation referred to in No. 723, on a provisional basis, coordination of space stations of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced at the Earth's surface exceeds the limits in No. 2566. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC-92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations. **(WARC-92)**

724--*Different category of service*: in Afghanistan, Saudi Arabia, Bahrain, Bulgaria, Cameroon, Egypt, the United Arab Emirates, France, Iran, Iraq, Israel, Kuwait, the Lebanon, Morocco, Mongolia, Oman, Poland, Qatar, Syria, the German Democratic Republic, Romania, Czechoslovakia, the U.S.S.R., Yemen and Yugoslavia, the allocation of the band 1525-1530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 425).**(WARC-92)**

725--*Additional allocation*: in the U.S.S.R., the band 1 525-1 530 MHz is also allocated to the aeronautical mobile service on a primary basis.

726A--The bands 1525-1544 MHz, 1545-1559 MHz, 1626.5-1645.5 MHz and 1646.5-1660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.**(WARC-92)**

726B--The use of the bands 1525-1530 MHz, 1533-1544 MHz, 1626.5-1631.5 MHz and 1634.5-1645.5 MHz by the land mobile-satellite service is limited to non-speech low bit-rate data transmissions. **(WARC-92)**

726C--*Additional allocation*: in Argentina, Australia, Brazil, Canada, the United States, Malaysia and Mexico, the band 1530-1544 MHz is also allocated to the mobile-satellite (space-to-Earth) service and the band 1626.5-1645.5 MHz is also allocated to the mobile-satellite (Earth-to-space) service, on a primary basis subject to the following conditions: maritime mobile-satellite distress and safety communications shall have priority access and immediate availability over all other mobile-satellite communications operating under this provision. Communications of mobile-satellite system stations not participating in the global maritime distress and safety system (GMDSS) shall operate on a secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services.**(WARC-92)**

726D--The use of the bands 1525-1559 and 1626.5-1660.5 MHz by the mobile-satellite services are subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). In Regions 1 and 3 in the band 1525-

1530 MHZ coordination of space stations of the mobile-satellite services with respect to terrestrial services is required only if the power flux-density produced at the Earth's surface exceeds the limits in No.2566. In respect of assignments operating in the band 1525-1530 MHz, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC-92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations.**(WARC-92)**

727--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, the Congo, Egypt, the United Arab Emirates, Ethiopia, Iran, Iraq, Israel, Jordan, Kuwait, the Lebanon, Malta, Morocco, Niger, Oman, Pakistan, Qatar, Syria, Somalia, Sudan, Sri Lanka, Chad, Thailand, Togo, Yemen (P.D.R. of) and Zambia, the bands 1 540-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis.

727A--The use of the band 1544-1545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article N 38).**(Mob-87)**

729--Transmissions in the band 1545-1555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.**(Mob-87)**

729A--Notwithstanding any other provisions of the Radio Regulations relating to restrictions in the use of the bands allocated to the aeronautical mobile-satellite (R) service for public correspondence, the bands 1545-1555 MHz and 1646.5-1656.5 MHz may be authorized by administrations for public correspondence with aircraft earth stations. Such communications must cease immediately, if necessary, to permit transmission of messages with priority 1 to 6 in Article 51.**(Mob-87)**

730--*Additional allocation*: in the Federal Republic of Germany, Austria, Bulgaria, Cameroon, Spain, France, Guinea, Hungary, Indonesia, Libya, Mali, Mongolia, Nigeria, Poland, the German Democratic Republic, Romania, Senegal, Tanzania, Czechoslovakia and the U.S.S.R., the bands 1550-1645.5 MHz and 1646.5-1660 MHz are also allocated to the fixed service on a primary basis. **(WARC-92)**

730A--In the bands 1555-1559 and 1656.5-1660.5 MHz administrations may also authorize aircraft earth stations and ship earth stations to communicate with space stations in the land mobile-satellite service (see Resolution 208 (Mob-87)).**(Mob-87)**

730B--*Alternative allocation*: in Australia, Canada and Mexico, the band 1555-1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5-1660 MHz is allocated to the mobile-satellite (Earth-to-space) service, and the band 1660-1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and the radio astronomy services, on a primary basis.**(WARC-92)**

730C--*Alternative allocation*: in Argentina and the United States, the band 1555-1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5-1660 MHz is allocated to the mobile-satellite (Earth-to-space) service and the band 1660-1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and radio astronomy services, on a primary basis subject to the following conditions: the aeronautical mobile-satellite (R) service shall have priority access and immediate availability over all other mobile-satellite communications within a network operating under this provision; mobile-satellite systems shall be interoperable with the aeronautical mobile-satellite (R) service; account shall be taken of the priority of safety-related communications in the other mobile-satellite services.**(WARC-92)**

731--*Alternative allocation*: in Sweden, the band 1590-1626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.**(Mob-87)**

731E--The use of the band 1610-1626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). A mobile earth station operating in either of the services in this band shall not produce an e.i.r.p. density in excess of -15 dB(W/4kHz) in the part of the band used by systems operating in accordance with the provisions of No. 732, unless otherwise agreed by the affected administrations. In the part of the band where such systems are not operating, a value of -3dB(W/4kHz) is applicable. Stations of the mobile-satellite service shall not cause harmful interference to, or claim protection from, stations in the aeronautical radionavigation service, stations operating in accordance with the provisions

of No. 732 and stations in the fixed service operating in accordance with the provisions of No. 730. **(WARC-92)**

731F--The use of the band 1613.8-1626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92).

732--The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under the procedure set forth in Article 14.

733--The bands 1 610-1 626.5 MHz, 5 000-5 250 MHz and 15.4-15.7 GHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis. Such use is subject to agreement obtained under the procedure set forth in Article 14.

733A--With respect to the radiodetermination-satellite and mobile-satellite services, the provisions of No. 953 do not apply in the frequency band 1610-1626.5 MHz.**(WARC-92)**

733B--*Different category of service*: in Angola, Australia, Burundi, Cote d'Ivoire, Ethiopia, India, Islamic Republic of Iran, Israel, Italy, Jordan, Kenya, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Senegal, Sudan, Swaziland, Syria, Tanzania, Thailand, Togo, Zaire and Zambia, the allocation of the band 1610-1626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 425) subject to agreement obtained under the procedure set forth in Article 14 with other countries not listed in this provision.**(Mob-87)**

733C--*Different category of service*: in Venezuela, the allocation to the radiodetermination-satellite service in the band 1610-1626.5 MHz (Earth-to-space) is on a secondary basis.**(Mob-87)**

733D--*Alternative allocation*: in Cuba, the band 1610-1626.5 MHz is allocated exclusively to the aeronautical radionavigation service on a primary basis.**(Mob-87)**

733E--Harmful interference shall not be caused to stations of the radio astronomy service using the band 1610.6-1613.8 MHz by stations of the radiodetermination-satellite and mobile-satellite services. (No. 2904 applies.)**(WARC-92)**

733F--In Region 1, the bands 1610-1626.5 MHz (Earth-to-space) and 2483.5-2500 MHz (space-to-Earth) are also allocated to the radiodetermination-satellite service on a secondary basis.**(Mob-87)**

734--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the radio astronomy service in the band 1610.6-1613.8 MHz from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36). **(WARC-92)**

734A--Land earth stations and ship earth stations in the mobile-satellite services operating in the bands 1631.5-1634.5 and 1656.5-1660 MHz shall not cause harmful interference to the stations in the fixed service operating in the countries listed in No. 730.**(Mob-87)**

734B--The use of the band 1645.5-1646.5 MHz by the mobile-satellite service (Earth-to-space) and for inter-satellite links is limited to distress and safety communications (see Article N 38).**(Mob-87)**

735--Transmissions in the band 1646.5-1656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.**(Mob-87)**

735A--In the band 1675-1710 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, the meteorological-satellite and meteorological aids service (see Resolution 213) (WARC-92) and the use of this band shall be subject to the provisions of Resolution 46. **(WARC-92)**

736--In making assignments to stations of other services to which the band 1 660-1 670 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

737--*Different category of service*: in Afghanistan, Saudi Arabia, Bahrain, Benin, Bulgaria, Cameroon, the Central African Republic, the Congo, Cuba, Egypt, the United Arab Emirates, Ethiopia, Hungary, India, Indonesia, Iran, Israel, Kenya, Kuwait, the Lebanon, Malaysia, Mongolia, Oman, Uganda, Pakistan, Poland, Qatar, Syria, the German

Democratic Republic, Singapore, Somalia, Sri Lanka, Chad, Czechoslovakia, Thailand, Tunisia, the U.S.S.R., Yemen A. R., Yemen (P.D.R. of) and Yugoslavia, the allocation of the band 1 660.5-1 668.4 MHz to the fixed and the mobile, except aeronautical mobile, service is on a primary basis until 1 January 1990 (see No. 425).

738--*Additional allocation*: in Bangladesh, India, Indonesia, Nigeria, Pakistan, Sri Lanka and Thailand, the band 1660.5-1668.4 MHz is also allocated to the meteorological aids service on a secondary basis.

739--In view of the successful detection by radio astronomers of two hydroxyl spectral lines in the region of 1665 MHz and 1667 MHz, administrations are urged to give all practicable protection in the band 1660.5-1668.4 MHz for future research in radio astronomy, particularly by eliminating air-to-ground transmissions in the meteorological aids service in the band 1664.4-1668.4 MHz as soon as practicable.

740--*Additional allocation*: in Afghanistan, Costa Rica, Cuba, India, Iran, Malaysia, Pakistan, Singapore, Sri Lanka and Thailand, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

740A--The bands 1670-1675 MHz and 1800-1805 MHz are intended for use, on a world-wide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1670-1675 MHz by stations in the systems for public correspondence with aircraft is limited to transmissions from aeronautical stations and the use of the band 1800-1805 MHz is limited to transmissions from aircraft stations.**(WARC-92)**

741--*Different category of service*: in Saudi Arabia, Austria, Bahrain, Bulgaria, the Congo, Egypt, the United Arab Emirates, Ethiopia, Guinea, Hungary, Iraq, Israel, Jordan, Kenya, Kuwait, the Lebanon, Mauritania, Mongolia, Oman, Poland, Qatar, Syria, the German Democratic Republic, Romania, Somalia, Tanzania, Czechoslovakia, the U.S.S.R., Yemen A.R., Yemen (P.D.R. of) and Yugoslavia, the allocation of the band 1 690-1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 425).

742--*Additional allocation*: in Australia and Indonesia, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

743--*Additional allocation*: in India, Indonesia, Japan and Thailand, the band 1 700-1 710 MHz is also allocated to the space research service (space-to-Earth) on a primary basis.

744--The band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to stations of other services to which the band is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

745--Subject to agreement obtained under the procedure set forth in Article 14 and having particular regard to tropospheric scatter systems, the band 1 750-1 850 MHz may also be used for space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Afghanistan, Australia, India, Indonesia, Japan and Thailand.

746--*Additional allocation*: in Bulgaria, Cuba, Mali, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 1 770-1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under the procedure set forth in Article 14. **(WARC-92)**

746A--The frequency bands 1885-2025 MHz and 2110-2200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement the future public land mobile telecommunication systems (FPLMTS). Such use does not preclude the use of these bands by other services to which these bands are allocated.

The frequency bands should be made available for FPLMTS in accordance with Resolution 212.**(WARC-92)**

746B--The use of the bands 1970-2010 MHz and 2160-2200 MHz by the mobile-satellite service shall not commence before 1 January 2005 and is subject to the application of the coordination and notification procedures set form in Resolution 46 (WARC-92). In the band 2160-2200 MHz coordination of space stations of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced at the Earth's surface exceeds the

limits in No. 2566. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC-92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations. **(WARC-92)**

746C--In the United States, the use of the bands 1970-2010 MHz and 2160-2200 MHz by the mobile-satellite service shall not commence before 1 January 1996. **WARC-92)**

747A--In making assignments to the mobile service in the bands 2025-2110 MHz and 2200-2290 MHz, administrations shall take into account Resolution 211.**(WARC-92)**

750A--Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites in the space research, space operation and Earth exploration-satellite services in the bands 2025-2110 MHz and 2200-2290 MHz, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.**(WARC-92)**

750B--*Additional allocation*: in the United States and India, the band 2310-2360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528.**(WARC-92)**

751--In Australia, the United States and Papua New Guinea, the use of the band 2300-2390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2300-2483.5 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. **(WARC-92)**

751A--In France, the use of the band 2310-2360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.**(WARC-92)**

751B--Space stations of the broadcasting-satellite service in the band 2310-2360 MHz operating in accordance with No. 750B that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution 33 (WARC-92). Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighboring countries prior to their bringing into use.**(WARC-92)**

752--The band 2 400-2 500 MHz (center frequency 2 450 MHz) is designated for industrial, scientific and medical (ISM) applications. Radio services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

753--*Different category of service*: in France, the band 2450-2500 MHz is allocated on a primary basis to the radiolocation service (see No. 425). Such use is subject to agreement with administrations having services operating or planned to operate in accordance with the Table of Frequency Allocations which may be affected.**(WARC-92)**

753A--In respect of the radiodetermination-satellite service in the band 2483.5-2500 MHz, the provisions of No. 953 do not apply.**(Mob-87)**

753B--In Region 1, in countries other than those listed in No. 753C, harmful interference shall not be caused to, or protection shall not be claimed from, stations of the radio-location service by stations of the radio-determination-satellite service.**(Mob-87)**

753C--*Different category of service*: in Angola, Australia, Bangladesh, Burundi, China, Cote d'Ivoire, Ethiopia, India, the Islamic Republic of Iran, Israel, Italy, Jordan, Kenya, Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Senegal, Sudan, Swaziland, Syria, Tanzania, Thailand, Togo, Zaire and Zambia, the allocation of the band 2483.5-2500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. 425) subject to agreement obtained under the procedure of Article 14 with other countries not listed in this provision.**(WARC-92)**

753D--*Alternative allocation*: in Cuba, the band 2483.5-2500 MHz is allocated only to fixed, mobile and radiolocation services on a primary basis.**(Mob-87)**

753F--The use of the band 2483.5-2500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). Coordination of space stations of the mobile-satellite and radiodetermination-satellite services with respect to terrestrial services is required only if the power flux-density

produced at the Earth's surface exceeds the limits in No. 2566. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC-92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations.**(WARC-92)**

754--Subject to agreement obtained under the procedure set forth in Article 14, the band 2520-2535 MHz (until 1 January 2005 the band 2500-2535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The coordination and notification procedures set forth in Resolution 46 (WARC-92) apply. However coordination of space stations of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced by the station exceeds the limits in No. 2566. **(WARC-92)**

754A--*Additional allocation*: subject to agreement obtained under the procedure set forth in Article 14, the band 2500-2516.5 MHz may also be used in India, the Islamic Republic of Iran, Papua New Guinea and Thailand for the radiodetermination-satellite service (space-to-Earth) for operation limited to within national boundaries.**(Mob-87)**

754B--*Additional allocation*: in France, the band 2500-2550 MHz is also allocated to the radiolocation service on a primary basis. Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.**(WARC-92)**

755--*Additional allocation*: in Canada, the band 2 500-2 550 MHz is also allocated to the radiolocation service on a primary basis.

755A--In the band 2500-2520 MHz, power flux-density at the surface of the Earth from space stations operating in the mobile-satellite (space-to-Earth) service shall not exceed -152 db(W/m^2-/4kHz) in Argentina, unless otherwise agreed by the administrations concerned.**(WARC-92)**

756--*Additional allocation*: in the United Kingdom, the band 2 500-2 600 MHz is also allocated to the radiolocation service on a secondary basis.

757--The use of the band 2520-2670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception and such use shall be subject to agreement obtained under the procedure set forth in Article 14. The power flux--density at the Earth's surface shall not exceed the values given in Nos. 2561 to 2564. **(WARC-92)**

757A--*Additional allocation*: in Bangladesh, Belarus, China, the Republic of Korea, the Russian Federation, India, Japan, Pakistan, Singapore, Sri Lanka, Thailand and Ukraine, the band 2535-2655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to provisions of Resolution 528 (WARC-92). The provisions of Nos. 757 and 2561 to 2564 do not apply to this additional allocation.**(WARC-92)**

758--*Alternative allocation*: in the Federal Republic of Germany and Greece, the band 2520-2670 MHz is allocated to the fixed service on a primary basis. **(WARC-92)**

759--*Alternative allocation*: in Bulgaria and the U.S.S.R., the band 2 500-2 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

760--In the design of systems in the broadcast-ing-satellite service in the bands between 2500 MHz and 2690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2690-2700 MHz.

760A--The allocation of the frequency band 2500-2520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC-92). Coordination of space stations of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced at the Earth's surface exceeds the limits in No. 2566. In respect of assignments operating in this band, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC-92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations.**(WARC-92)**

761--The use of the bands 2500-2690 MHz in Region 2 and 2500-2535 MHz and 2655-2690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems; such use shall be subject to agreement obtained under the procedure set forth in Article 14, giving particular attention to the broadcasting-satellite service in Region 1. In the direction space-to-Earth, the power flux-density at the

Earth's surface shall not exceed the values given in Nos. 2561 to 2564.

762--Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500-2 690 MHz.

763--Subject to agreement obtained under the procedure set forth in Article 14, the band 2500-2690 MHz may be used for tropospheric scatter systems in Region 1.

764--When planning new tropospheric scatter radio-relay links in the band 2 500-2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

764A--The allocation of the frequency band 2670-2690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing mobile-satellite systems in this band administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in this band shall be in accordance with Resolution 46.**(WARC-92)**

765--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 2 655-2 690 MHz. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

766--Subject to agreement obtained under the procedure set forth in Article 14, the band 2655-2670 MHz (until 1 January 2005 the band 2655-2690 MHz) may also be used for the mobile satellite (Earth-to--space), except aeronautical mobile -satellite, service for operation limited to within national boundaries. The coordination and notification procedures set forth in Resolution 46 apply. **(WARC-92)**

767--*Additional allocation*: in the Federal Republic of Germany and Austria, the band 2690-2695 MHz is also allocated to the fixed service on a primary basis. Such use is limited to equipment in operation by 1 January 1985.

768--All emissions in the band 2 690-2 700 MHz are prohibited, except those provided for by Nos. 767 and 769.

769--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Brunei Darussalom, Bulgaria, Cameroon, the Central African Republic, the Congo, Cote d'Ivore, Cuba, Egypt, the United Arab Emirates, Ethiopia, Gabon, Guinea, Guinea-Bissau, Iran, Iraq, Israel, Jordon, the Lebanon, Malaysia, Malawi, Mali, Morocco, Mauritania, Mongolia, Nigeria, Oman, Pakistan, the Philippines, Poland, Qatar, Syria, the German Democratic Republic, Romania, Singapore, Somalia, Sri Lanka, Czechoslovakia, Thailand, Tunisia, the U.S.S.R., Yemen, Yugoslavia, Zaire and Zambia, the band 2690-2700 MHz is also allocated to the fixed and mobile except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985. **(WARC-92)**

770--In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

771--*Additional allocation*: in Canada, the band 2850-2900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

772--In the band 2900-3100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2930-2950 MHz.

773--The use of the band 2 900-3 100 MHz by the aeronautical radionavigation service is limited to ground-based radars. **(Mob-87)**

775A--In the bands 2900-3100 MHz and 9300-9500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 347 of these Regulations.**(Mob-87)**

777--*Additional allocation*: in Bulgaria, Canada, Cuba, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. **(WARC-92)**

778--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service from harmful interference in the bands 3260-3267 MHz, 3332-3339 MHz, 3345.8-3352.5 MHz and 4825-4835 MHz. Emissions from space or airborne stations can

be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

779--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, the Congo, the United Arab Emirates, India, Indonesia, Iran, Iraq, Israel, Japan, Jordon, Kuwait, the Lebanon, Libya, Malaysia, Oman, Pakistan, Qatar, Democratic People's Republic of Korea, Syria, Singapore, Sri Lanka, Thailand and Yemen the band 3300-3400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. **(WARC-92)**

780--*Additional allocation*: in Bulgaria, Cuba, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 3300-3400 MHz is also allocated to the radio-navigation service on a primary basis. **(WARC-92)**

781--*Additional allocation*: in the Federal Republic of Germany, Israel, Nigeria and the United Kingdom, the band 3 400-3 475 MHz is also allocated to the amateur service on a secondary basis.

783--*Different category of service*: in Indonesia, Japan, Pakistan and Thailand, the allocation of the band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 425).

784--In Regions 2 and 3, in the band 3 400-3 600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

785--In Denmark, Norway and the United Kingdom, the fixed, radiolocation and fixed-satellite services operate on a basis of equality of rights in the band 3 400-3 600 MHz. However, these Administrations operating radiolocation systems in this band are urged to cease operations by 1985. After this date, these Administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

786--In Japan, in the band 3 620-3 700 MHz, the radiolocation service is excluded.

787--*Additional allocation*: in New Zealand, the band 3 700-3 770 MHz is also allocated to the radiolocation service on a secondary basis.

788--*Additional allocation*: in the Federal Republic of Germany, Denmark, Norway and Sweden, the band 4 200-4 210 MHz is also allocated to the fixed service on a secondary basis.

789--Use of the band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

790--*Additional allocation*: in China, Iran, Libya, the Philippines and Sri Lanka, the band 4200-4400 MHz is also allocated to the fixed service on a secondary basis.

791--The standard frequency and time signal-satellite service may be authorized to use the frequency 4202 MHz for space-to-Earth transmissions and the frequency 6427 MHz for Earthto-space transmissions. Such transmissions shall be confined within the limits of ±2 MHz of these frequencies and shall be subject to agreement obtained under the procedure set forth in Article 14.

792A--The use of the bands 4500-4800 MHz, 6725-7025 MHz, 10.7-10.95 GHz, 11.2-11.45 GHz and 12.75-13.25 GHz by the fixed-satellite service shall be in accordance with the provisions of Appendix 30B.**(Orb-88)**

793--In the bands 4825-4835 MHz and 4950-4990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.

794--*Different category of service*: in Argentina, Australia and Canada, the allocation of the bands 4 825-4 835 MHz and 4 950-4 990 MHz to the radio astronomy service is on a primary basis (see No. 425). In making assignments to stations of other services to which these bands are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

795--In making assignments to stations of other services to which the band 4 990-5 000 MHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

796--The band 5 000-5 250 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band.

797--The bands 5 000-5 250 MHz and 15.4-15.7 GHz are also allocated to the fixed-satellite service and the inter-satellite service, for connection between one or more earth stations at specified fixed points on the Earth and space stations, when these services are used in conjunction with the aeronautical radionavigation and/or aeronautical mobile (R) service. Such use shall be subject to agreement obtained under the procedure set forth in Article 14.

797A--*Additional allocation*: in the countries listed in Nos. 733B and 753C, and subject to agreement obtained under the procedure set forth in Article 14, the band 5150-5216 MHz is also allocated to the radio-determination-satellite service (space-to-Earth) on a primary basis. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. 733B and 753C, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1610-1626.5 MHz and/or 2483.5-2500 MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dBw/m^2 in any 4 kHz band for all angles of arrival.**(Mob-87)**

797B--*Additional allocation*: in the Federal Republic of Germany, Austria, Belgium, Denmark, Spain, France, Finland, Greece, Israel, Italy, Japan, Jordan, the Lebanon, Liechtenstein, Luxembourg, Morocco, Malta, Norway, the Netherlands, Pakistan, Portugal, the United Kingdom, Sweden, Switzerland, Syria and Tunisia, the band 5150-5250 MHz is also allocated to the mobile service, on a primary basis, subject to the agreement obtained under the procedure set forth in Article 14.**(WARC-92)**

798--*Additional allocation*: in Austria, Bulgaria, Libya, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis. **(WARC-92)**

799--The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

800--*Additional allocation*: in Afghanistan, Austria, Bulgaria, Iran, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia, and the U.S.S.R., the band 5 470-5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. **(WARC-92)**

801--*Additional allocation*: in the United Kingdom, the band 5 470-5 850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. 2502, 2505, 2506 and 2507 shall apply in the band 5 725-5 850 MHz.

802--Between 5600 MHz and 5650 MHz, ground based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

803--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, the Central African Republic, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kuwait, the Lebanon, Libya, Madagascar, Malaysia, Malawi, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, Democratic People's Republic of Korea, Syria, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis. **(WARC-92)**

804--*Different category of service*: in Bulgaria, Cuba, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the allocation of the band 5 670-5 725 MHz to the space research service is on a primary basis (see No. 425). **(WARC-92)**

805--*Additional allocation*: in Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the band

5 670-5 850 MHz is also allocated to the fixed service on a primary basis.

806--The band 5 725-5 875 MHz (center frequency 5 800 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

807--*Additional allocation*: in the Federal Republic of Germany and in Cameroon, the band 5 755-5 850 MHz is also allocated to the fixed service on a primary basis.

808--The band 5 830-5 850 MHz is also allocated in the amateur-satellite service (space-to-Earth) on a secondary basis.

809--In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the earth exploration-satellite (passive) and space research (passive) services in their future planning of this band.

810--Subject to agreement obtained under the procedure set forth in Article 14, in Region 2, the band 7 125-7 155 MHz may be used for Earth-to-space transmissions in the space operation service.

811--Subject to agreement obtained under the procedure set forth in Article 14, the band 7 145-7 235 MHz may be used for Earth-to-space transmissions in the space research service. The use of the band 7 145-7 190 MHz is restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz.

812--The bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) may also be used by the mobile-satellite service. The use of these bands by this service shall be subject to agreement obtained under the procedure set forth in Article 14.

813--In the band 8 025-8 400 MHz, the power flux-density limits specified in No. 2570 shall apply in Regions 1 and 3 to the earth exploration-satellite service.

814--In Region 2, aircraft stations are not permitted to transmit in the band 8025-8400 MHz.

815--Subject to agreement obtained under the procedure set forth in Article 14, the band 8025-8400 MHz may be used for the earth exploration-satellite service (space-to-Earth) in Bangladesh, Benin, Cameroon, China, the Central African Republic, the Ivory Coast, Egypt, France, Guinea, Upper Volta, India, Iran, Israel, Italy, Japan, Kenya, Libya, Mali, Niger, Pakistan, Senegal, Somalia, Sudan, Sweden, Tanzania, Zaire and Zambia, on a primary basis.

816--In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.

817--*Different category of service*: in Belgium, Israel, Luxembourg, Malaysia, Singapore and Sri Lanka, the allocation of the band 8400-8500 MHz to the space research service is on a secondary basis (see No. 424).

818--*Alternative allocation*: in the United Kingdom, the band 8 400-8 500 MHz is allocated to the radiolocation and space research services on a primary basis.

819--*Additional allocation*: in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, the Congo, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guinea, Guyana, Indonesia, Iran, Iraq, Israel, Jamaica, Jordon, Kuwait, the Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Nigeria, Oman, Pakistan, Qatar, Democratic People's Republic of Korea, Syria, Senegal, Singapore, Somalia, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Tunisia and Yemen, the band 8 500-8 750 MHz is also allocated to the fixed and mobile services on a primary basis. **(WARC-92)**

820--*Additional allocation*: in Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 8 500-8 750 MHz is also allocated to the land mobile and radionavigation service on a primary basis.

821--The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a center frequency of 8 800 MHz.

822--*Additional allocation*: in Algeria, the Federal Republic of Germany, Bahrain, Belgium, China, the United Arab Emirates, France, Greece, Indonesia, Iran, Libya, the Netherlands, Qatar, Sudan and Thailand, the bands 8 825-8 850 MHz and 9 000-9 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only.

823--In the bands 8850-9000 MHz and 9200-9225 MHz, the maritime radionavigation service is limited

to shore-based radars.

824--*Additional allocation*: in Austria, Bulgaria, Cuba, Hungary, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the bands 8850-9000 MHz and 9200-9300 MHz are also allocated to the radionavigation service on a primary basis.

824A--In the band 9200-9500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate CCIR Recommendation (see also Article N 38).**(Mob-87)**

825--The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9300-9320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9300-9500 MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

825A--In the band 9300-9320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.**(Mob-87)**

826--*Different category of service*: in Afghanistan, Algeria, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, the Republic of Korea, Egypt, the United Arab Emirates, Ethiopia, Guyana, India, Indonesia, Iran, Iraq, Israel, Jamaica, Japan, Jordan, Kuwait, the Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, Singapore, Somalia, Sudan, Sri Lanka, Sweden, Thailand, Trinidad and Tobago, and Yemen, the allocation of the band 9800-10000 MHz to the fixed service is on a primary basis (see No. 425). **(WARC-92)**

827--*Additional allocation*: in Bulgaria, Hungary, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the band 9 800-10 000 MHz is also allocated to the radionavigation service on a primary basis.

828--The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

829--*Additional allocation*: in Costa Rica, Ecuador, Guatemala and Honduras, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis.

830--*Additional allocation*: in the Federal Republic of Germany, Angola, China, Ecuador, Spain, Japan, Kenya, Morocco, Nigeria, Oman, Democratic People's Republic of Korea, Sweden, Tanzania and Thailand, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. **(WARC-92)**

831--In the band 10.6-10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed −3 dBW. These limits may be exceeded subject to agreement obtained under the procedure set forth in Article 14. However, in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, China, the United Arab Emirates, Finland, India, Indonesia, Iran, Iraq, Japan, Kuwait, the Lebanon, Nigeria, Pakistan, the Philippines, Qatar, Syria and the U.S.S.R., the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable.

832--In making assignments to stations of other services to which the band 10.6-10.68 GHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or air-borne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

833--All emissions in the band 10.68-10.7 GHz are prohibited, except for those provided by No. 834. **(WARC-92)**

834--*Additional allocation*: in Saudi Arabia, Bahrain, Bulgaria, Cameroon, China, Colombia, the Republic of Korea, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Iran, Iraq, Israel, Japan, Jordan, Kuwait, the Lebanon, Mongolia, Pakistan, Poland, Qatar, the German Democratic Republic, Democratic People's Republic of Korea, Romania, Czechoslovakia, the U.S.S.R., Yemen and Yugoslavia, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985.

835--In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcastingsatellite service.

836--In Region 2, in the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.**(Orb-85)**

837--*Different category of service*: in Canada, Mexico and the United States, allocation of the band 11.7-12.1 GHz to the fixed service is on a secondary basis (see No. 424). **(Orb-85)**

838--In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to broadcasting-satellite stations operating in accordance with the provisions of Appendix 30.

839--The use of the band 11.7-12.2 GHz by the fixed-satellite service in Region 2 and 12.2-12.7 GHz by the broadcasting-satellite service in Region 2 is limited to national and sub-regional systems. The use of the band 11.7-12.2 GHz by the fixed-satellite service in Region 2 is subject to previous agreement between the administrations concerned and those having services, operating or planned to operate in accordance with the Table, which may be affected (see Articles 11, 13 and 14). For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Article 15.**(Orb-88)**

842--*Additional allocation*: the bands 12.1-12.2 GHz in Brazil and Peru, is also allocated to the fixed service on a primary basis. **(Orb-85)**

844--In Region 2, in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to the space services operating in conformity with the Broadcasting-Satellite Plan for Region 2 contained in Appendix 30. **(Orb-85)**

845--In Region 3, the band 12.2-12.5 GHz is also allocated to the fixed-satellite (space-to-Earth) service limited to national and sub-regional systems. The power flux-density limits in No. 2574 shall apply to this frequency band. The introduction of the service in relation to the broadcasting-satellite service in Region 1 shall follow the procedures specified in Article 7 of Appendix 30, with the applicable frequency band extended to cover 12.2-12.5 GHz.

846--In Region 2, in the band 12.2-12.7 GHz, assignments to stations of the broadcasting-satellite service in the Plan for Region 2 contained in Appendix 30 (Orb-85) may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference or require more protection from interference than the broadcasting-satellite service transmissions operating in conformity with the Region 2 Plan. With respect to the space services, this band shall be used principally for the broadcasting-satellite service. **(Orb-85)**

847--The broadcasting-satellite service in the band 12.5-12.75 GHz in Region 3 is limited to community reception with a power flux-density not exceeding -111 dB(W/m^2) as defined in Annex 8 of Appendix 30. *See also Resolution 34.* **(Orb-85)**

848--*Additional allocation*: in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Republic, the Congo, the Ivory Coast, Egypt, the United Arab Emirates, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kenya, Kuwait, the Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Niger, Nigeria, Qatar, Syria, Senegal, Somalia, Sudan, Chad, Togo, Yemen (P.D.R. of) and Zaire, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

849--*Additional allocation*: in the Federal Republic of Germany, Belgium, Denmark, Spain, Finland, France, Greece, Liechtenstein, Luxembourg, Monaco, Norway, Uganda, the Netherlands, Portugal, Romania, Sweden, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

850--*Additional allocation*: in Austria, Bulgaria, Hungary, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those mentioned in this footnote. Coordination of these

earth stations is not required with stations of the fixed and mobile services of the countries mentioned in this footnote. The power flux-density limit at the Earth's surface given in No. 2574 for the fixed satellite service shall apply on the territory of the countries mentioned in this footnote. **(WARC-92)**

851--The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.

852--Subject to agreement obtained under the procedure set forth in Article 14, the band 13.25-13.4 GHz may also be used in the space research service (Earth-to-space) on a secondary basis.

853--*Additional allocation*: in Bangladesh, India and Pakistan, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis.

854--*Additional allocation*: in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, the Republic of Korea, Egypt, the United Arab Emirates, Finland, Gabon, Guinea, Indonesia, Iran, Iraq, Israel, Jordan, Kuwait, the Lebanon, Madagascar, Malaysia, Malawi, Mali, Malta, Morocco, Mauritania, Niger, Nigeria, Pakistan, Qatar, Syria, Senegal, Singapore, Sudan, Sri Lanka, Sweden, Chad, Thailand and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis.**(WARC-92)**

855--*Additional allocation*: in Austria, Bulgaria, Hungary, Japan, Mongolia, the German Democratic Republic, Romania, the United Kingdom, Czechoslovakia and the U.S.S.R., the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. **(WARC-92)**

855A--In the band 13.75-14 GHz the e.i.r.p. of any emission from an earth station in the fixed-satellite service shall be at least 68 dBW, and should not exceed 85 dBW, with a minimum antenna diameter of 4.5 meters. In addition the e.i.r.p. averaged over one second, radiated by a station in the radiolocation and radionavigation services towards the geostationary-satellite orbit shall not exceed 59 dBW. These values shall apply subject to review by the CCIR and until they are changed by a future competent world administrative radio conference (see Resolution 112).**(WARC-92)**

855B--In the band 13.75-14 GHz geostationary space stations in the space research service, for which information for advance publication has been received by the IFRB prior to 31 January 1992, shall operate on an equal basis with stations in the fixed-satellite service; after that date new geostationary space stations in the space research service will operate on a secondary basis.

Until 1 January 2000, stations in the fixed-satellite service shall not cause harmful interference to non-geostationary space stations in the space research and Earth exploration-satellite services; after that date these non-geostationary space stations will operate on a secondary basis in relation to the fixed-satellite service.**(WARC-92)**

856--The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service (see Recommendation 708).

857--*Additional allocation*: in Afghanistan, Algeria, Angola, Saudi Arabia, Australia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lesotho, Lebanon, Malaysia, Malawi, Mali, Morocco, Mauritania, Niger, Oman, Pakistan, the Philippines, Qatar, Democratic People's Republic of Korea, Syria, Senegal, Singapore, Somalia, Sudan, Sri Lanka, Swaziland, Tanzania, Chad, Thailand and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. **(WARC-92)**

858--The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to-space), for feeder links for the broadcasting-satellite service, subject to coordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe. **(Orb-88)**

859--The band 14-14.5 GHz is also allocated to the land mobile-satellite service (Earth-to-space) on a secondary basis.

860--*Additional allocation*: in the Federal Republic of Germany, Austria, Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Iceland, Italy, Libya, Liechtenstein, Luxembourg, Norway, the Netherlands, Portugal, the United Kingdom, Sweden, Switzerland, Turkey and Yugoslavia, the band 14.25-14.3 GHz is allocated to the fixed service on a primary basis. **(WARC-92)**

861--*Additional allocation*: in Japan, Pakistan, the United Kingdom and Thailand, the band 14.25-14.3

GHz is also allocated to the mobile, except aeronautical mobile, service on a primary basis.

862--In making assignments to stations of other services to which the band 14.47-14.5 GHz is allocated, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

863--The use of the band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe.**(Orb-88)**

864--All emissions in the band 15.35-15.4 GHz are prohibited, except those provided for by No. 865.

865--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran, Iraq, Israel, Kuwait, the Lebanon, Libya, Pakistan, Qatar, Syria, Somalia and Yugoslavia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis.

866--*Additional allocation*: in Afghanistan, Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, the Congo, Costa Rica, Egypt, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Indonesia, Iran, Jordan, Kuwait, Libya, Malaysia, Malawi, Morocco, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Singapore, Somalia, Sudan, Sri Lanka, Sweden, Swaziland, Tanzania, Chad, Thailand, Yemen and Yugoslavia, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis.**(WARC-92)**

867--*Additional allocation*: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 866.

868--*Additional allocation*: in Afghanistan, Algeria, the Federal Republic of Germany, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, Honduras, India, Indonesia, Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Libya, Nepal, Nicaragua, Oman, Pakistan, Qatar, Sudan, Sri Lanka, Sweden, Thailand and Yugoslavia, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. 2505 and 2508 shall apply.**(WARC-92)**

868A--In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of section 1 of Annex 4 of Appendix 30A.**(WARC-92)**

869--The use of the band 17.3-18.1 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. For the use of the band 17.3-17.8 GHz in Region 2 by the feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article 15A. **(Orb-85)**

869A--In Region 2, the allocation to the broadcasting-satellite service in the band 17.3-17.8 GHz shall come into effect on 1 April 2007. After that date, use of the fixed-satellite (space-to-Earth) service in the band 17.7-17.8 GHz shall not claim protection from and shall not cause harmful interference to operating systems in the broadcasting-satellite service.**(WARC-92)**

869B--In Region 2, the allocation of the band 17.7-17.8 GHz to the mobile service is on a primary basis until 31 March 2007.**(WARC-92)**

870--The band 18.1-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of No. 2578.

870A--The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.**(WARC-92)**

870B--*Alternative allocation*: in the Federal Republic of Germany, Denmark, the United Arab Emirates, Greece, Poland, the Czech and Slovak Federal Republic and United Kingdom, the band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis. The provisions of No. 870 also apply.**(WARC-92)**

871--In making assignments to stations in the fixed and mobile services, administrations are invited to take account of passive sensors in the earth exploration-satellite and space research services

operating in the band 18.6-18.8 GHz. In this band, administrations should endeavor to limit as far as possible both the power delivered by the transmitter to the antenna and the e.i.r.p. in order to reduce the risk of interference to passive sensors to the minimum.

872--In assigning frequencies to stations in the fixed-satellite service in the direction space-to-Earth, administrations are requested to limit as far as practicable the power flux-density at the Earth's surface in the band 18.6-18.8 GHz, in order to reduce the risk of interference to passive sensors in the earth exploration-satellite and space research services.

873--*Additional allocation*: in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Brazil, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kenya, Kuwait, the Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Singapore, Somalia, Sudan, Sri Lanka, Tanzania, Chad, Thailand, Togo, Tunisia and Zaire, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where such allocation to the mobile-satellite service is on a primary basis in the latter band. **(WARC-92)**

873A--In order to facilitate interregional coordination between networks in the mobile-satellite and fixed-satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz.**(WARC-92)**

873B--In the band 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.**(WARC-92)**

873C--In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No. 953 do not apply with respect to the mobile-satellite service.**(WARC-92)**

873D--The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1 GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 873.**(WARC-92)**

873E--The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. 873B.**(WARC-92)**

873F--In Regions 1 and 3, the allocation to the broadcasting-satellite service in the band 21.4-22 GHz shall come into effect on 1 April 2007. The use of this band by the broadcasting-satellite service after that date and on an interim basis prior to that date is subject to the provisions of Resolution 525.**(WARC-92)**

873G--Additional allocation: in Japan, the band 21.4-22 GHz is also allocated to the broadcasting service on a primary basis.**(WARC-92)**

874--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service in the band 22.01-22.21 GHz from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see also Nos. 343 and 344 and Article 36).

875--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference in the band 22.21-22.5 GHz. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see also Nos. 343 and 344 and Article 36).

876--The use of the band 22.21-22.5 GHz by the earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile,

services.

879--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service in the bands 22.81-22.86 GHz and 23.07-23.12 GHz from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see also Nos. 343 and 344 and Article 36).

880--All emissions in the band 23.6-24 GHz are prohibited.

881--The band 24-24.25 GHz (center frequency 24.125 GHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 1815.

881A--Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.**(WARC-92)**

881B--Space services using non-geostationary satellites operating in the inter-satellite service in the band 27 - 27.5 GHz are exempt from the provisions of No. 2613.**(WARC-92)**

882--The band 29.95-30 GHz may be used for space-to-space links in the earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

882A--*Additional allocation*: the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10dbW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500-27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in No. 2578 on the Earth's surface. **(WARC-92)**

882B--*Additional allocation*: the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up link power control.**(WARC-92)**

882C--In the band 28.5-30 GHz, the Earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.**(WARC-92)**

882D--The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.**(WARC-92)**

882E--The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radio-navigation service.**(WARC-92)**

882F--*Additional allocation*: in Japan, the band 24.65-25.25 GHz is also allocated to the radio-navigation service on a primary basis until 2008.**(WARC-92)**

882G--In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder link networks to such broadcasting-satellite stations.**(WARC-92)**

.**883**--*Additional allocation*: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Egypt, the United Arab Emirates, Ethiopia, Guinea, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kenya, Kuwait, the Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Niger, Pakistan, Qatar, Syria, Singapore, Somalia, Sudan, Sri Lanka, Chad and Thailand, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. 2505 and 2508 shall apply. **(WARC-92)**

884--In the band 31-31.3 GHz the power flux-density limits specified in No. 2582 shall apply to the space research service.**(Orb-88)**

885--*Different category of service*: in Bulgaria, Cuba, Mongolia, Poland, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. 425). **(WARC-92)**

886--In making assignments to stations of other services, administrations are urged to take all

practicable steps to protect the radio astronomy service from harmful interference in the band 31.2-31.3 GHz. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

887--All emissions in the band 31.3-31.5 GHz are prohibited.

888--In Regions 1 and 3, in making assignments to stations of other services to which the band 31.5-31.8 GHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

In Region 2, all emissions in the band 31.5-31.8 GHz are prohibited.

889--*Different category of service*: in Bulgaria, Egypt, Mongolia, Poland, the German Democratic Republic, Romania, Czechoslovakia and the U.S.S.R., the allocation of the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 425). **(WARC-92)**

892--Subject to agreement obtained under the procedure set forth in Article 14, the band 31.8-33.8 GHz may also be used in Japan for space-to-Earth transmissions in the fixed-satellite service up to 31 December 1990.

893--In designing systems for the inter-satellite and radionavigation services in the band 32-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707) (WARC-79).**(WARC-92)**

894--*Additional allocation*: in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Spain, Finland, Gabon, Guinea, Indonesia, Iran, Iraq, Israel, Jordan, Kenya, Kuwait, the Lebanon, Libya, Malaysia, Malawi, Mali, Malta, Morocco, Mauritania, Nepal, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Senegal, Singapore, Somalia, Sudan, Sri Lanka, Sweden, Tanzania, Thailand, Togo, Tunisia, Yemen A.R. and Zaire, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis.**(WARC-92)**

896--*Different category of service*: in Bulgaria, Cuba, Mongolia, the German Democratic Republic, Czechoslovakia and the U.S.S.R., the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 425). **(WARC-92)**

897--Radars located on spacecraft may be operated on a primary basis in the band 35.5-35.6 GHz.

898--In making assignments to stations of other services, administrations are urged to take all practicable steps to protect the spectral line observations of the radio astronomy service in the band 36.43-36.5 GHz from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

900--In making assignments to stations of other services to which the band 42.5-43.5 GHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference, especially in the bands 42.77-42.87 GHz, 43.07-43.17 GHz, and 43.37-43.47 GHz, which are used for spectral line observations of silicon monoxide. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

901--The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.

902--In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 134-142 GHz, 190-200 GHz and 252-265 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. 435).

903--In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 134-142 GHz, 190-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in con-

junction with the mobile-satellite service or the radionavigation-satellite service.

904--The bands 48.94-49.04 GHz and 97.88-98.08 GHz are also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to stations of other services to which these bands are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or air-borne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

905--In the band 48.94-49.04 GHz, all emissions from airborne stations are prohibited.

906--In the bands 51.4-54.25 GHz, 58.2-59 GHz, 64-65 GHz and 72.77-72.91 GHz, radio astronomy observations may be carried out under national arrangements. Administrations are urged to take all practicable steps to protect radio astronomy observations in these bands from harmful interference.

907--In the bands 51.4-54.25 GHz, 58.2-59 GHz, 64-65 GHz, 86-92 GHz, 105-116 GHz and 217-231 GHz, all emission are prohibited.

908--*Additional allocation*: in the Federal Republic of Germany, Japan and the United Kingdom, the band 54.25-58.2 GHz is also allocated to the radiolocation service on a primary basis.

909--In the bands 54.25-58.2 GHz, 59-64 GHz, 116-134 GHz, 170-182 GHz and 185-190 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 435).

910--In the bands 59-64 GHz and 126-134 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. 435).

911--The band 61-61.5 GHz (center frequency 61.25 GHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned in agreement with other administrations whose radiocommunication services might be affected. In applying this provision administrations shall have due regard to the latest relevant CCIR Recommendations.

912--In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

913--In the band 84-86 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to broadcasting-satellite stations operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service.

914--The band 93.07-93.27 GHz is also used by the radio astronomy service for spectral line observations. In making assignments to stations of the services to which this band is allocated, administrations are urged to take all practicable steps to protect radio astronomy observations from harmful interference. Emissions from space or air-borne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

915--The band 119.98-120.02 GHz is also allocated to the amateur service on a secondary basis.

916--The band 122-123 GHz (center frequency 122.5 GHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned in agreement with other administrations whose radiocommunication services might be affected. In applying this provision administrations shall have due regard to the latest relevant CCIR Recommendations.

917--In the band 140.69-140.98 GHz all emissions from airborne stations, and from space stations in the space-to-Earth direction, are prohibited.

918--The bands 140.69-140.98 GHz, 144.68-144.98 GHz, 145.45-145.75 GHz and 146.82-147.12 GHz are also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to stations of other services to which the bands are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

919--The bands 150-151 GHz, 174.42-175.02 GHz, 177-177.4 GHz, 178.2-178.6 GHz, 181-181.46 GHz and 186.2-186.6 GHz are also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to stations of other services to which these bands are allocated,

administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

920--*Additional allocation*: in the United Kingdom, the band 182-185 GHz is also allocated to the fixed and mobile services on a primary basis.

921--In the band 182-185 GHz all emissions are prohibited except for those under the provisions of No. 920.

922--The band 244-246 GHz (center frequency 245 GHz) is designated for industrial, scientific and medical (ISM) applications. The use of this frequency band for ISM applications shall be subject to special authorization by the administration concerned in agreement with other administrations whose radiocommunication services might be affected. In applying this provision administrations shall have due regard to the latest relevant CCIR Recommendations.

923--The bands 250-251 GHz and 262.24-262.76 GHz are also allocated to the radio astronomy service on a primary basis for spectral line observations. In making assignments to stations of other services to which these bands are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

924--The band 257.5-258 GHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. In making assignments to stations of other services to which the band is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

925--In the Federal Republic of Germany, Argentina, Spain, Finland, France, India, Italy, the Netherlands and Sweden, the band 261-265 GHz is also allocated to the radio astronomy service on a primary basis. In making assignments to stations of other services to which the band is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

926--In making assignments to stations of other services to which the band 265-275 GHz is allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference, especially in the bands 265.64-266.16 GHz, 267.34-267.86 GHz and 271.74-272.26 GHz, which are used for spectral line observations. Emissions from space or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 343 and 344 and Article 36).

927--The frequency band 275-400 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

radio astronomy service:

278-280 GHz and 343-348 GHz:

space research service (passive) and earth exploration-satellite service (passive):

275-277 GHz, 300-302 GHz, 324-326 GHz, 345-347 GHz, 363-365 GHz and 379-381 GHz.

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the next competent world administrative radio conference.

928 to 952--NOT allocated.

Non-Government (NG) Footnotes

NG2--Facsimile broadcasting stations may be authorized in the band 88-108 MHz.

NG3--Control stations in the domestic public radio services may be authorized frequencies in the band 72-73 and 75.4-76 MHz on the condition that harmful interference will not be caused to operational fixed stations.

NG4--The use of the frequencies in the band 152.84-153.38 MHz may be authorized in any area to remote pickup broadcast base and mobile stations on the condition that harmful interference will not be caused to stations, operating in accordance with the Table of Frequency Allocations.

NG6--Stations in the public safety radio services authorized as of June 30, 1958, to use frequencies in the band 159.51-161.79 MHz in areas other than Puerto Rico and the Virgin Islands may continue such operation, including expansion of existing systems, on the condition that harmful interference will not be caused to stations in the services to which these bands are allocated. In Puerto Rico and the Virgin Islands this authority is limited to frequencies in the band 160.05-161.37 MHz. No new public radio service system will be authorized to operate on these frequencies.

NG12--Frequencies in the bands 454.50-455 MHz and 459.40-460 MHz may be assigned to domestic public land and mobile stations to provide a two-way air-ground public radiotelephone service.

NG17--Stations in the Land Transportation Radio Services authorized as of May 15, 1958 to operate on the frequency 161.61 MHz may, upon proper application, continue to be authorized for such operations, including expansion of existing systems, on the condition that harmful interference will not be caused to the operation of any authorized station in the maritime mobile service. No new Land Transportation Radio Service system will be authorized to operate on 161.61 MHz.

NG19--Fixed stations associated with the maritime mobile service may be authorized, for purposes of communication with coast stations, to use frequencies assignable to ship stations in this band, on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

NG23--Frequencies in the band 2100-2200 MHz may also be assigned to stations in the international fixed public radio service located south of 25º30' north latitude in the State of Florida and in U.S. Possessions in the Caribbean area, provided, however, no new assignments in the band 2150-2162 MHz will be made to such stations after February 25, 1974.

NG28--The frequency band 160.86-161.40 MHz is available for assignment to remote pick-up base and remote pickup mobile stations in Puerto Rico and the Virgin Islands only on a shared basis with the land transportation radio service.

NG30--Stations in the international fixed public radiocommunication service in Florida, south of 25º30' north latitude, may be authorized to use frequencies in the band 716-890 MHz on the condition that harmful interference will not be caused to the broadcasting service of any country. This is an interim allocation the termination of which will later be specified by the Commission when it is determined that equipments are generally available for use in bands allocated internationally to the fixed services.

NG41--Frequencies in the bands 3700-4200 MHz, 5925-6425 MHz, and 10.7-11.7 GHz may also be assigned to stations in the international fixed public and international control services located in the U.S. Possessions in the Caribbean area.

NG42--Non-Government stations in the radiolocation service shall not cause harmful interference to the amateur service.

NG43--Fixed stations in the domestic public radio services in Alaska, south of 56º north latitude and east of 134º west longitude, may be authorized to use frequencies in the band 800-830 MHz, on the condition that harmful interference will not be caused to the broadcasting service of any country.

NG47--In the band 2500-2690 MHz, channels in 2500-2686 MHz and the corresponding response frequencies 2686.0625-2689.8125 MHz may be assigned to stations in the Instructional Television Fixed Service (Part 74 of this Chapter) CFR 47; channels in 2596-2644 MHz and response frequencies 2686.5625-2689.6875 MHz may be assigned to Multipoint Distribution Service stations (Part 21 of this Chapter); and channels 2650-2656 MHz, 2662-2668 MHz and 2674-2680 MHz and response frequencies 2686.9375 MHz, 2687.9375 MHz and 2688.9375 MHz may be assigned to stations in the Operational Fixed Service (Part 94 of this Chapter). In Alaska, however, frequencies within the band 2655-2690 MHz are not available for assignment to terrestrial stations.

NG49--The following frequencies may be authorized on a secondary basis for low-power (1 watt input) mobile operations in the Manufacturers Radio Service subject to the condition that no interference is caused to the reception of television stations operating on

channels 4 and 5 and that their use is limited to a manufacturing facility:

MHz	MHz	MHz	MHz	MHz
72.02	72.10	72.18	72.26	72.34
72.04	72.12	72.20	72.28	72.36
72.06	72.14	72.22	72.30	72.38
72.08	72.16	72.24	72.32	72.40

Further, the following frequencies may be authorized on a primary basis for mobile operations in the Special Industrial Radio Service, Manufacturers Radio Service, and Railroad Radio Service subject to the condition that no interference is caused to the reception of television stations operating on channels 4 and 5; and that their use is limited to a railroad yard, manufacturing plant, or similar industrial facility.

MHz	MHz	MHz	MHz	MHz
72.44	72.52	72.60	75.48	75.56
72.48	72.56	75.44	75.52	75.60

NG51--In Puerto Rico and the Virgin Islands only, the bands 150.8-150.98 MHz and 150.98-151.49 MHz are allocated exclusively to the business radio service.

NG53--In the band 12.7-13.15 GHz, television pickup stations and CARS pickup stations shall be assigned channels on a co-equal basis and shall operate on a secondary basis to fixed stations operating in accordance with the Table of Frequency Allocations. In the 13.15-13.20 GHz band television pickup stations and CARS pickup stations shall be assigned on an exclusive basis in the top one hundred markets, as set out in Section 76.51.

NG56--In the bands 72.0-73.0 and 75.4-76.0 MHz, the use of mobile radio remote control of models is on a secondary basis to all other fixed and mobile operations. Such operations are subject to the condition that interference will not be caused to common carrier domestic public stations, to remote control of industrial equipment operating in the 72-76 MHz band, or to the reception of television signal on channels 4 (66-72 MHz) or 5 (76-82 MHz). Television interference shall be considered to occur whenever reception of regularly used television signals is impaired or destroyed, regardless of the strength of the television signal or the distance to the television station.

NG59--The frequencies 37.60 and 37.85 MHz may be authorized only for use by base, mobile, and operational fixed stations participating in an interconnected or coordinated power service utility system.

NG63--Television Broadcast translator stations holding valid licenses on November 15, 1971, to operate in the frequency band 806-890 MHz (channels 70-83), may continue to operate in this band, pursuant to periodic license renewals, on a secondary basis to the land mobile radio service.

NG64--Broadcast auxiliary stations licensed as of July 10, 1970, to operate in the frequency band 942-947 MHz may continue to so operate pending a decision as to their disposition through a future rule making proceeding.

NG66--The frequency band 470-512 MHz is allocated for use in the Broadcasting and Land Mobile Radio Services. In the Land Mobile Services it is available for assignment in the Domestic Public, Public Safety, Industrial, and Land Transportation Radio Services at, or in the vicinity of 13 urbanized areas of the United States, as set forth in the table below, and subject to the standards and conditions set forth in Parts 22 and 90 of this chapter, CFR 47.

Urbanized area	TV channel
New York-Northeastern New Jersey	14, 15
Los Angeles	14, 20
Chicago-Northwestern Indiana	14, 15
Philadelphia, Pa.-New Jersey	19, 20
Detroit, Mich	15, 16
San Francisco-Oakland, Cal	16, 17
Boston, Mass	14, 16
Washington, D.C.-Maryland-Virginia	17, 18
Pittsburgh, Pa	14, 18
Cleveland, Ohio	14, 15
Miami, Fla	14
Houston, Tex	17
Dallas, Tex	16

NG70--In Puerto Rico and the Virgin Islands only, the bands 159.240-159.435 and 160.410-160.620 MHz are also available for assignment to base stations and mobile stations in the Special Industrial Radio Service.

NG101--The use of the band 2500-2690 MHz by the broadcasting-satellite service is limited to domestic and regional systems for community reception of educational television programming and public service information. Such use is subject to agreement among administrations concerned and those having services operating in accordance with the table, which may be affected. Unless such agreement includes the use of higher values, the power flux-density at the earth's surface produced by emissions from a space station in this service shall not exceed those values set forth in Part 73 of the rules for this frequency band.

NG102--The frequency bands 2500-2655 MHz (space-to-Earth) and 2655-2690 MHz (Earth-to-space) are allocated for use in the fixed-satellite service as follows:

(a) For common carrier use in Alaska, for intra-Alaska service only, and, in the mid and western Pacific area including American Samoa, the Trust Territory of the Pacific Islands, Guam and Hawaii;

(b) For educational use in the contiguous United States, Alaska, and the mid and western Pacific area including American Samoa, the Trust Territory of the Pacific Islands, Guam and Hawaii.

Such use is subject to agreement with administrations having services operating in accordance with the table, which may be affected. In the band 2500-2655 MHz unless such agreement includes the use of higher values, the power flux density at the earth's surface produced by emissions from a space station in this service shall not exceed the values set forth in Part 25 of the rules for this frequency band.

NG104--The use of the band 10.7-11.7 GHz and 12.75-13.25 GHz in the fixed-satellite service is limited to international systems, i.e., other than domestic systems.

NG111--The band 157.4375-157.4625 MHz may be used for one-way paging operations in the Special Emergency Radio Service.

NG112--The frequencies 25.04, 25.08, 150.980, 154.585, 158.445, 159.480, 454.000 and 459.000 MHz may be authorized to stations in the Petroleum Radio Service for use primarily in oil spill containment and cleanup operations and secondarily in regular land mobile communication.

NG114--In the offshore Louisiana gulf coast area, the band 488-494 MHz (TV Channel 17) is allocated to the domestic public and industrial radio services in accordance with the regulation set forth in Parts 22 and 90, respectively.

NG115--In the 174 to 216 MHz band wireless microphones may be authorized to operate on a secondary, non-interfering basis, subject to terms and conditions set forth in Part 74 of these Rules and Regulations.

NG117--The frequency 156.050 and 156.175 MHz may be assigned to stations in the maritime mobile service for commercial and port operations in the New Orleans Vessel Traffic Service (VTS) area and the frequency 156.250 MHz may be assigned to stations in the maritime mobile service for port operations in the New Orleans and Houston VTS areas.

NG118--Television translator relay stations may be authorized to use frequencies in this band on a secondary basis to stations operating in accordance with the Table of Frequency Allocations.

NG120--Frequencies in the 928-960 MHz band may be assigned for multiple address systems and mobile operations on a primary basis as specified in Part 94.

NG122--Television Pickup stations may be authorized under Part 74 in the 6425-6525 MHz band on a secondary basis to stations operating in accordance with the Table of Frequency Allocations.

NG124--In the Public Safety Radio Service allocation within the bands 30-50 MHz, 150-174 MHz and 450-470 MHz, Police Radio Service licensees are authorized to operate low powered radio transmitters on a secondary non-interference basis in accordance with the provisions of Section 2.803 and 90.19 (f) (5) of the Rules.

NG127--In Hawaii the frequency band 488-494 MHz is allocated exclusively to the fixed service for use by common carrier control and repeater stations for point-to-point inter-island communications only.

NG128--In the band 535-1605 kHz, AM broadcast licensees or permittees may use their AM carrier on a secondary basis to transmit signals intended for both broadcast and non-broadcast purposes. In the band 88-108 MHz, FM broadcast licensees or permittees are permitted to use subcarriers on a secondary basis to transmit signals intended for both broadcast and non-broadcast purposes. In the bands 54-72, 76-88, 174-216 and 740-890 MHz, TV broadcast licensees or permittees are permitted to use subcarriers on a secondary basis for both broadcast and non-broadcast purposes.

NG129--In Alaska, the bands 76-88 MHz and 88-100 MHz are also allocated to the Fixed service on a secondary basis. Broadcast stations operating in these bands shall not cause interference to non-Government fixed operations authorized prior to January 1, 1982.

NG134--In the band 10.45-10.5 GHz non-Government stations in the radiolocation service shall not cause harmful interference to the amateur and amateur-satellite services.

NG135--In the 420-430 MHz band the Amateur service is not allocated north of line A. (def. § 2.1).

NG139--Pending adopting of further specific rules concerning usage of the band 12.2-12.7 GHz by the

fixed and broadcasting-satellite services, systems in these services may be authorized subject to the condition that adjustments in certain system design or technical parameters may become necessary during the system lifetime. The necessity for such adjustments, and their extent, will be dependent upon the Final Acts of the 1983 Regional Administrative Radio Conference and subsequent Commission decisions.

NG140--Pending adopting of further specific rules concerning usage of the band 17.3-17.8 GHz by the fixed-satellite service for the purpose of providing feeder links to the broadcasting-satellite service, systems may be authorized for this purpose subject to the condition that adjustments in certain system design or technical parameters may become necessary during the system life-time. The necessity for such adjustments, and their extent, will be dependent upon the Final Acts of the 1983 Regional Administrative Radio Conference and subsequent Commission decisions.

NG141--The frequencies 42.40 MHz and 44.10 MHz are authorized on a primary basis in the State of Alaska for meteor burst communications by fixed stations in the Rural Radio Service operating under the provisions of Part 22 of this Chapter. The frequencies 44.20 MHz and 45.90 MHz are authorized on a primary basis in Alaska for meteor burst communications by fixed private radio stations operating under the provisions of Part 90 of this Chapter. The private radio station frequencies may be used by Common Carrier stations on a secondary, noninterference basis and the Common Carrier frequencies may be used by private radio stations for meteor-burst communications on a secondary, non-interference basis. Users shall cooperate to the extent practical to minimize potential interference. Stations utilizing meteor-burst communications shall not cause harmful interference to stations of other radio services operating in accordance with the allocation table.

NG143--In the band 11.7-12.2 GHz protection from harmful interference shall be afforded to transmissions from space stations not in conformance with international footnote 839 only if the operations of such space stations impose no unacceptable constraints on operations or orbit locations of space stations in conformance with 839.

NG144--Stations authorized as of September 9, 1983, to use frequencies in the band 17.7-19.7 GHz may, upon proper application, continue to be authorized for such operation.

NG145--In the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for trans-missions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBw per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.

NG147--Stations in the broadcast auxiliary service and private radio services licensed as of July 25, 1985, or on a subsequent date following as a result of submitting an application for license on or before July 25, 1985, may continue to operate on a primary basis with the mobile-satellite service and the radio-determination satellite service.

NG148--The frequencies 154.585 MHz, 159.480 MHz, 160.725 MHz, 160.785 MHz, 454.000 MHz and 459.000 MHz may be authorized to maritime mobile stations for offshore radiolocation and associated telecommand operations.

NG149--The frequency bands 54-72 MHz, 76-88MHz, 174-216 MHz, 470-512 MHz, 512-608 MHz, and 614-806 MHz are also allocated to the fixed service to permit subscription television opera

tions in accordance with Part 73 of the rules.

NG151--In the frequency bands 824-849 MHz and 869-894 MHz, cellular land mobile licensees are permitted to offer auxiliary service on a secondary basis subject to the provisions of Part 22.

NG152--The band 219-220 MHz is also allocated to the amateur service on a secondary basis for stations participating, as forwarding stations, in point-to-point fixed digital message forwarding systems, including intercity packet backbone networks.

NG153--The 2110-2150 MHz and 2160-2200 MHz bands are reserved for future emerging technologies on a co-primary basis with the fixed and mobile services. Allocations to specific services will be made in future proceedings.

NG154--The 157.1875-157.45 MHz and 161.775-162.0125 MHz bands are also allocated to the land mobile service for assignment to stations as described in Part 90.

4.2 FREQUENCY ALLOTMENTS

4.2.1 Allotment of 27575 and 27585 kHz for Short-Distance Low-Power Service

These allotments are to provide for intermittent miscellaneous U. S. Government short-distance low--power radiocommunications, radio signaling, and the control of remote objects or devices by means of radio (where the radiated power exceeds the limit established under Part 7.9).

The designated frequencies are allotted for use by U. S. Government agencies and may be authorized for use by agencies as required upon application. All stations operating on these frequencies shall meet the conditions and standards established for this service.

The designated frequencies are available on a shared basis only and will not be authorized for exclusive use of any one agency. No protection from interference can be assured to any station operating in this service. Services involving safety of life and property should not employ these frequencies in view of their unprotected status. All transmissions are to be restricted to official U. S. Government business that requires the use of radio.

Stations in this service shall utilize FCC type--accepted or type-approved Citizens Radio Band equipment or the equivalent. The maximum transmitter output power shall be five watts.

Stations shall be identified in accordance with the regulations of each agency.

The only class of station authorized is Mobile (including portable-type operation).

Frequencies 27575 and 27585 kHz with 6KA2A, 6KA2D and 6KA3E emission are designated for the U. S. Government short-distance low-power radio service.

All applications for the use of these frequencies must bear the note S159 which reads, "U. S. Government short-distance low-power service."

4.2.2 Allotments in the Band 1710-1850 MHz for Fixed Security Surveillance Systems

The frequencies 1720, 1740, 1760, 1780, and 1800 MHz are allotted for use in fixed security surveillance systems, on a secondary basis to other stations operating in accordance with the Government Table of Frequency allocations.

4.2.3 Allotment of 163.100, 418.050, and 418.575 MHz for Wide Area Use

1. The frequencies 163.100, 418.050, and 418.575 MHz are allotted for use by all U.S. Government agencies and are to satisfy intermittent wide area requirements of a transient nature. Coordination in accordance with Section 8.3.18 is not required.

2. All operations shall be authorized in accordance with Chapter 9 of the Manual. The frequencies are available on a shared non-priority basis only, and will not be authorized nor are they intended for the exclusive use of any one agency. No protection from interference will be provided to any station operating on these frequencies from other stations operating on the same frequency. The use of equipment with coded squelch is strongly encouraged to reduce nuisance interference from other users.

3. The intent of these allotments is for use by Government stations in the Land or Maritime Mobile Services, which are unlikely to cause harmful interference to other stations operating in these Services, (Table of Services, Station Classes, and Stations, Section 6.1.4 refers) and the following restrictions apply:

(a) the minimum ERP necessary to support the intended use shall be employed;

(b) the maximum base or mobile station transmitter output power shall not exceed 30 Watts;

(c) the gain of the base station antenna shall not exceed 6 dBW;

(d) the height of the base station antenna shall not exceed 6 meters above the height of the structure supporting the antenna;

(e) station classes are limited to FB, FC, ML, MLP, MS, MSP. However, these station classes may be suffixed with the letter "R" as applicable and restricted by 3.(e)(1) below.

(1) Mobile and/or transportable repeater transmitting stations (as defined in Sections 6.1.2, Paragraph 3 and 9.8.2, Paragraph 15c) may be authorized only on 163.1 or 418.05 MHz but are restricted to a maximum placement period of 45 days and a maximum transmitter output power of 30 Watts. (For transportable repeater stations, Note

S362 applies.) The repeater receive frequencies are 168.35 or 408.4 MHz.

(f) stations in the Fixed Service (FX station class) may be authorized but are restricted to transportable stations (Note S362 applies).

(g) All equipment shall conform to Part 5.6 of the Manual.

4. All applications utilizing these allotted frequencies must be affixed with Record Note S352 "This assignment is for intermittent wide area requirements of transient, itinerant nature pursuant to Section 4.2.3 of the Manual."

4.2.4 Allotment of 168.350, 408.400, and 418.075 MHz for Common Use Frequencies

1. The frequencies 168.350, 408.400, and 418.075 MHz are allotted for use by all U.S. Government agencies and are to provide for radiocommunications that do not justify the assigning of a radio frequency exclusively to that use, i.e., the frequency can be shared with other users. Coordination in accordance with Section 8.3.18 is not required.

2. All operations shall be authorized in accordance with Chapter 9 of the Manual. The frequencies are available on a shared non-priority basis only, and will not be authorized nor are they intended for the exclusive use of any one agency. No protection from interference will be provided to any station operating on these frequencies from other stations operating on the same frequency. The use of equipment with coded squelch is strongly encouraged to reduce nuisance interference from other users.

3. The intent of these allotments is for use by Government stations in the Land or Maritime Mobile Services, which are unlikely to cause harmful interference to other stations operating in these Services (Table of Services, Station Classes, and Stations, Section 6.1.4 refers) and the following restrictions apply:

(a) the minimum ERP necessary to support the intended use shall be employed;

(b) the maximum base or mobile station transmitter output power shall not exceed 30 Watts;

(c) the gain of the base station antenna shall not exceed 6 dBW;

(d) the height of the base station antenna shall not exceed 6 meters above the height of the structure supporting the antenna;

(e) station classes are limited to FB, FC, ML, MLP, MS, MSP.

(f) stations in the Fixed Service (FX station class) may be authorized but are restricted to transportable stations (Note S362 applies).

(g) all equipment shall conform to Part 5.6 of the Manual.

4. All applications utilizing these allotted frequencies must be affixed with Record Note S353 "This assignment is for a common use frequency pursuant to Section 4.2.4 of the Manual."

4.3 FREQUENCY PLANS

4.3.1 CW Phase Comparison Radiolocation Plan

This plan provides for the use of frequencies for low power, medium and high frequency radiolocation systems employing harmonically related N0N emission phase comparison frequencies and associated 1KA2D emission data link frequencies. These systems normally operate to distances of approximately 400 kilometers offshore and to considerably lesser distances inland. The following phase comparison frequencies with N0N emission are available for assignment in all areas. Frequency assignments for a band of frequencies shall not be made. Where equipment or other limitations make it impracticable to operate on these channels, applications for other suitable frequencies will be considered on a case-by-case basis.

1650.0-1655.0 kHz

1650.0	1651.0	1652.0	1653.0	1654.0
1650.1	1651.1	1652.1	1653.1	1654.1
1650.2	1651.2	1652.2	1653.2	1654.2
1650.3	1651.3	1652.3	1653.3	1654.3
1650.4	1651.4	1652.4	1653.4	1654.4
1650.5	1651.5	1652.5	1653.5	1654.5
1650.6	1651.6	1652.6	1653.6	1654.6
1650.7	1651.7	1652.7	1653.7	1654.7
1650.8	1651.8	1652.8	1653.8	1654.8
1650.9	1651.9	1652.9	1653.9	1654.9
		1655.0		

3300.4-3310.4 kHz

3300.4	3302.4	3304.4	3306.4	3308.4
3300.6	3302.6	3304.6	3306.6	3308.6
3300.8	3302.8	3304.8	3306.8	3308.8
3301.0	3303.0	3305.0	3307.0	3309.0
3301.2	3303.2	3305.2	3307.2	3309.2
3301.4	3303.4	3305.4	3307.4	3309.4

3301.6	3303.6	3305.6	3307.6	3309.6
3301.8	3303.8	3305.8	3307.8	3309.8
3302.0	3304.0	3306.0	3308.0	3310.0
3302.2	3304.2	3306.2	3308.2	3310.2
		3310.4		

The assignment of suitable frequencies for the associated data links with 1KA2D emission shall be considered on a case-by-case basis.

The mean antenna power shall be limited to 100 watts for both N0N and 1KA2D emissions. Only radiolocation land stations and radiolocation mobile stations shall be authorized.

The designated frequencies shall be authorized on a shared non-priority basis only and shall not be authorized for the exclusive use of any one agency. Any harmful interference that may develop between authorized radiolocation operations shall be resolved locally by coordination between the users involved.

Frequency assignments shall be for a temporary period not to exceed two years, and may be renewed.

4.3.2 Plan for Wireless Microphones in the Band 162-174 MHz

The following channels have been allotted for use by wireless microphone systems under the conditions listed in (a) through (e) below:

169.445 MHz	171.045 MHz
169.505 MHz	171.105 MHz
170.245 MHz	171.845 MHz
170.305 MHz	171.905 MHz

(a) The emission bandwidth shall not exceed 54 kHz.

(b) The output power shall not exceed 50 milliWatts.

(c) The frequency stability of wireless microphones shall limit the total emission to within ±32.5 kHz of the assigned frequency.

(d) All wireless microphone use will be on an unprotected basis and further will be on a non-interference basis to authorized Government and non-Government users with the exception of other wireless microphone users.

(e) Assignment applications for wireless microphone use will be considered on a case-by-case basis by the Frequency Assignment Subcommittee (FAS); and, assignment applications do not need to be coordinated with the Hydrology Subcommittee.

4.3.3 Plan for Hydrologic and Meteorological Operations in the Bands 162-174 and 406.1-420 MHz

1. *Hydrologic Channels.* This plan identifies the center frequencies of channels used primarily for hydrologic operations.

MHz	MHz	MHz	MHz	MHz
169.425	170.225	171.025	171.825	406.125
169.4375	170.2375	171.0375	171.8375	406.175
169.450	170.250	171.050	171.850	409.675
169.4625	170.2625	171.0625	171.8625	409.725
169.475	170.275	171.075	171.875	412.625
169.4875	170.2875	171.0875	171.8875	412.675
169.500	170.300	171.100	171.900	412.725
169.5125	170.3125	171.1125	171.9125	412.775
169.525	170.325	171.125	171.925	

a. *Use by Government Agencies.* Government agencies may use these frequencies only for hydrologic operations, except as indicated in Section 8.3.6.

b. *Use by Non-Government Agencies.* As provided in note US13, non-Government fixed stations may use these frequencies for the specific purpose of transmitting hydrologic and meteorological data in cooperation with agencies of the Federal Government.

c. *Coordination.* Agencies must coordinate with the Hydrology Subcommittee, as prescribed in Section 8.3.6, when applying for an assignment on one of these frequencies.

d. *Narrowband Hydrologic Operations.* Hydrologic operations in the 162-174 MHz band are subject to the conditions and limitations outlined in Section 4.3.7. New narrowband channeling plan frequencies are included in the Hydrologic channeling plan in paragraph 1. above.

2. *Meteorological and Quasi-Hydrologic Channels.* This plan identifies the center frequencies of channels allotted for meteorological and quasi-hydrologic operations. Coordination with the

Hydrology Subcommittee is not required.

171.175 406.150

4.3.3a Plan for Hydrologic and Meteorological Operations in the Band 162-174 MHz (12.5 kHz Plan)

1. *Hydrologic Channels.* This plan identifies the center frequencies of channels used primarily for hydrologic operations.

MHz	MHz	MHz	MHz
169.425	170.225	171.025	171.825
169.4375	170.2375	171.0375	171.8375
169.450	170.250	171.050	171.850
169.4625	170.2625	171.0625	171.8625
169.475	170.275	171.075	171.875
169.4875	170.2875	171.0875	171.8875
169.500	170.300	171.100	171.900
169.5125	170.3125	171.1125	171.9125
169.525	170.325	171.125	171.925

a. *Use by Government Agencies.* Government agencies may use these frequencies only for hydrologic operations, except as indicated in Section 8.3.6.

b. *Use by Non-Government Agencies.* As provided in note US13, non-Government fixed stations may use these frequencies for the specific purpose of transmitting hydrologic and meteorological data in cooperation with agencies of the Federal Government.

c. *Coordination.* Agencies must coordinate with the Hydrology Subcommittee, as prescribed in Section 8.3.6, when applying for an assignment on one of these frequencies.

d. *Narrowband Hydrologic Operations.* Hydrologic operations in the 162-174 MHz band are subject to the conditions and limitations outlined in Section 4.3.7. New narrowband channeling plan frequencies are included in the Hydrologic channeling plan in paragraph 1. above.

2. *Meteorological and Quasi-Hydrologic Operations.* Frequency 171.175 MHz is allotted for meteorological and quasi-hydrologic operations. Coordination with the Hydrology Subcommittee is not required.

171.175

4.3.4 Telemetering Plans

1. For the Band 225-260 MHz

a. In the band 225-260 MHz, 44 (500 kHz bandwidth) frequencies were designated[2] as an interim measure by the military services for telemetering. These frequencies were used on a primary basis for guided missiles, spacecraft, and upper atmosphere research, and on a secondary basis for manned and unmanned aircraft. As these frequencies were needed to satisfy military radiocommunication requirements other than telemetering, military telemetering operations were to be transferred to the 1435-1535 MHz and 2200-2300 MHz bands, as appropriate, by January 1, 1970. Within this planning, it was envisaged that the 44 (500 kHz bandwidth) frequencies available temporarily in the 225-260 MHz band would not be available after January 1, 1970.

b. Budgetary limitations and technical constraints prevented certain operations of the military services, DOE, and NASA from being converted to the higher bands. This resulted in Memorandums of Understanding (MOU) between DOD and NASA dated August 30, 1968, and between DOD and DOE's predecessor dated July 25, 1967, which provided for the continued use of certain frequencies. The MOU's were revised and reissued in March 1976 (DOD/DOE) and June 1976 (DOD/NASA) and are attached to IRAC Document 19007/1-2.10/4.11. Additionally, current frequency management policy applicable to the Military Departments provides that continued use of frequencies for telemetering operations in the 225-260 MHz band beyond January 1, 1975, will not be a bar to the satisfaction of communications needs for which the 225-400 MHz band is primarily allocated.

c. The specified frequencies will be available to meet DOE and NASA requirements pursuant to the aforementioned MOU's and certain residual military projects not yet fully converted to the telemetering bands 1435-1535 and 2200-2300 MHz, as appropriate.

2. For the Band 1435-1535 MHz

a. Ninety-nine (99) one-megahertz channels are designated for use for telemetering and associated telecommand during the flight testing of manned or unmanned aircraft, missiles, or major components thereof (Station Classes MOEA, FLEA, MOD, FLD--

see Chapter 6).

b. All assignments will be centered on frequencies at standard intervals of 1 MHz, beginning at 1435.5 MHz, and will be authorized bandwidths of 1, 3, or 5 MHz. Assignments with bandwidths greater than 1 MHz will be centered so that they do not extend outside the allocated band.

c. The frequencies 1444.5, 1453.5, 1501.5, 1515.5, 1524.5 and 1525.5 MHz will be shared with flight telemetering mobile stations (Station Classes MOEB, FLEB, MOD, FLD--see Chapter 6). Such uses will be limited to 1 MHz bandwidths except for frequencies 1524.5 and 1525.5 MHz where a bandwidth up to 2 MHz is permitted.

d. Included as permissible use of the 1435-1535 MHz band is telemetry associated with launching and reentry into the Earth's atmosphere, as well as any incidental orbiting prior to reentry, of manned or unmanned objects undergoing flight tests (Station Classes MOEA, FLEA, MOD, FLD apply).

e. Telecommand stations authorized operation in the 1435-1535 MHz band will:

(1) Directly support flight test aeronautical telemetering functions;

(2) Be limited to 1 MHz bandwidth; and,

(3) Use antennas having a half power beamwidth of no more than 8 degrees and a front-to-back ratio of at least 20 dB.

f. In the band 1435-1535 MHz, the channels designated for aeronautical telemetering are also available for space telemetering on a shared basis. *3. For the Band 2200-2300 MHz*

a. In the band 2200-2290 MHz, 90 one-megahertz narrowband channels are designated, centered on 2200.5 MHz and each one-megahertz increment thereafter, through and including 2289.5 MHz. The use of emission bandwidths greater than 1 MHz is permitted, provided the assigned frequencies are centered on the center frequencies of narrowband channels. These channels are available for a) telemetering from space research space stations irrespective of their trajectories and b) aeronautical telemetering, including telemetry associated with launch vehicles, missiles, and upper atmosphere research rockets. Such use is on a coequal shared basis with fixed and mobile line-of-sight operations in the band conducted in accordance with the Government Table of Frequency Allocations. No provision is made in this band for the flight testing of manned aircraft.

b. In the band 2290-2300 MHz, no specific channels have been established.

4. For the Band 2310-2390 MHz--The following applies to Mobile Telemetry and Associated Telecommand:

a. Seventy-three (73) one-megahertz channels are designated for use for telemetering and associated telecommand during the flight testing of manned or unmanned aircraft, missiles, or major components thereof (Station Classes MOEA, FLEA, MOD, FLD--see Chapter 6).

b. All assignments will be centered on frequencies at standard intervals of 1 MHz, beginning at 2310.5 MHz, and will normally be authorized bandwidths of 1, 3, or 5 MHz. Wider bandwidths may be authorized on a case-by-case basis to equipments capable of tuning the entire band. Assignments with bandwidths greater than 1 MHz will be centered so that they do not extend outside the allocated band. Telecommand assignments will be limited to 1 MHz bandwidths (see 5.d below).

c. The frequencies 2312.5, 2332.5, 2352.5, 2364.5, 2370.5, and 2382.5 MHz are also designated for use by both Government and non-Government stations on a co-equal basis for telemetering and associated telecommand operations of expendable and re-usable launch vehicles whether or not such operations involve flight testing. Such uses will be limited to 1 MHz bandwidths. (Station classes MOEA, MOEB, MOD, FLEA, FLEB, and FLD apply).

d. Telecommand stations, except as noted in 5c, above, authorized operation in the 2310-2390 MHz band will:

(1) Directly support flight test aeronautical telemetering functions;

(2) Be limited to 1 MHz bandwidth; and,

(3) Use antennas having a half power beamwidth of no more than 8 degrees and a front-to-back ratio of at least 20 dB.

4.3.5 VHF/UHF Plan for Aeronautical Radionavigation

TACAN-DME and VOR comprise the short-distance air navigational system in the common civil/military National Airspace System (NAS). TACAN is capable of providing range and azimuth

information to aircraft. Normally range-only information is received by civil aircraft. DME provides range only and VOR provides azimuth only.

Frequencies at 1-MHz increments in the 960-1215 MHz band are used in airborne interrogating and ground transponder equipments as shown in the channel arrangement depicted below. This channel-pairing arrangement, which has been adopted by ICAO for facilities supporting operations in the international aeronautical service, also serves as a basis for all frequency planning and assignments for the NAS. TACAN and DME frequencies are designated on aeronautical charts by channel numbers 1-126. TACAN channels in the National Airspace System plan are paired with VOR or ILS localizer frequencies in the 108-118 MHz band and with glide slope frequencies in the 328.6-335.4 MHz band, as shown. This pairing arrangement facilitates the employment of a VOR in conjunction with a TACAN-DME beacon to form a VORTAC facility to provide simultaneous azimuth and range information to civil aircraft. Similarly TACAN-DME beacons may be paired with ILS facilities to provide both range and terminal guidance (azimuth and glide slope) information to properly equipped aircraft.

When a TACAN or DME transponder is intended to operate in association with a VHF navigational facility (VOR or ILS), the transponder is collocated with the VHF facility and frequency paired with it. If the system is to be used for terminal services such as for airport approach or landing, the facilities are considered to be collocated only if the transponder and VHF antennas are not more than 260 feet (80 meters) apart. For enroute procedures, collocation is considered to exist if the antenna separation does not exceed 2,000 feet (610 meters). Where the separation exceeds these figures, a VOR/ILS frequency from one pair and the TACAN-DME frequency from another pair must be assigned and suitable notations made on aeronautical charts to alert the user that he is not receiving azimuth and range information from the same point.

TACAN channels 17-59 and 70-126 are designated for use in the National Airspace System. Frequency assignments on these channels and for VOR and ILS operations are managed by the Aeronautical Assignment Group (AAG) of the FAS, under the provisions of sections 1.4.1 and 9.14.1. Most of these TACAN channels are used by the FAA to provide air navigation services.

Channels 1-16 and 60-69 are designated for the military services for tactical uses and are not used in the NAS. The frequency subbands matching these channel designators are assigned to the military departments for use throughout the U. S. and Possessions. Assignments of specific frequencies to areas and locations are accomplished by individual military departments after appropriate coordination between departments.

Land and shipborne beacons operating on these channels, as well as airborne beacons for air-to-air operations provide both azimuth and range information to military aircraft.

The FAA recognizes the need of the military services to use NAS frequencies for tactical purposes, including air-to-air operations, on a secondary basis. The military services recognize the need for frequency adjustments to provide protection for new or reclassified facilities of the NAS. Assignments and adjustments in support of these facilities shall be coordinated on a case-by-case basis through the AAG.

To minimize the possibility of harmful interference between the NAS and military operations, the FAA shall make every effort to avoid the use of TACAN Channels 17, 59, and 70 in areas of concentrated fleet activity. The military services shall coordinate in advance with the FAA relative to the use of TACAN Channels 16, 60, and 69 for land-based facilities.

Assignments of TACAN channels in the operational environment of ground radar facilities equipped with Selective Identification Features (SIF) of Secondary Surveillance Radars (SSR) must be considered carefully, in order to avoid interference. The ground SIF/SSR interrogator transmits on 1030 MHz (TACAN Channel 6 interrogator frequency) and the airborne SIF/SSR transponder transmits on 1090 MHz (TACAN Channel 66 interrogator frequency).

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
1X		1025	12	962	12		
1Y		1025	36	1088	30		
2X		1026	12	963	12		
2Y		1026	36	1089	30		
3X		1027	12	964	12		
3Y		1027	36	1090	30		
4X		1028	12	965	12		
4Y		1028	36	1091	30		
5X		1029	12	966	12		
5Y		1029	36	1092	30		
6X		1030	12	967	12		
6Y		1030	36	1093	30		
7X		1031	12	968	12		
7Y		1031	36	1094	30		
8X		1032	12	969	12		
8Y		1032	36	1095	30		
9X		1033	12	970	12		
9Y		1033	36	1096	30		
10X		1034	12	971	12		
10Y		1034	36	1097	30		
11X		1035	12	972	12		
11Y		1035	36	1098	30		
12X		1036	12	973	12		
12Y		1036	36	1099	30		
13X		1037	12	974	12		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
13Y		1037	36	1100	30		
14X		1038	12	975	12		
14Y		1038	36	1101	30		
15X		1039	12	976	12		
15Y		1039	36	1102	30		
16X		1040	12	977	12		
16Y		1040	36	1103	30		
17X	108.00	1041	12	978	12		
17Y	108.05	1041	36	1104	30		
18X		1042	12	979	12	108.10	334.70
18Y		1042	36	1105	30	108.15	334.55
19X	108.20	1043	12	980	12		
19Y	108.25	1043	36	1106	30		
20X		1044	12	981	12	108.30	334.10
20Y		1044	36	1107	30	108.35	333.95
21X	108.40	1045	12	982	12		
21Y	108.45	1045	36	1108	30		
22X		1046	12	983	12	108.50	329.90
22Y		1046	36	1109	30	108.55	329.75
23X	108.6	1047	12	984	12		
23Y	108.65	1047	36	1110	30		
24X		1048	12	985	12	108.70	330.50
24Y		1048	36	1111	30	108.75	330.35
25X	108.80	1049	12	986	12		
25Y	108.85	1049	36	1112	30		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
26X		1050	12	987	12	108.90	329.30
26Y		1050	36	1113	30	108.95	329.15
27X	109.00	1051	12	988	12		
27Y	109.05	1051	36	1114	30		
28X		1052	12	989	12	109.10	331.40
28Y		1052	36	1115	30	109.15	331.25
29X	109.20	1053	12	990	12		
29Y	109.25	1053	36	1116	30		
30X		1054	12	991	12	109.30	332.00
30Y		1054	36	1117	30	109.35	331.85
31X	109.40	1055	12	992	12		
31Y	109.45	1055	36	1118	30		
32X		1056	12	993	12	109.50	332.60
32Y		1056	36	1119	30	109.55	332.45
33X	109.60	1057	12	994	12		
33Y	109.65	1057	36	1120	30		
34X		1058	12	995	12	109.70	333.20
34Y		1058	36	1121	30	109.75	333.05
35X	109.80	1059	12	996	12		
35Y	109.85	1059	36	1122	30		
36X		1060	12	997	12	109.90	333.80
36Y		1060	36	1123	30	109.95	333.65
37X	110.00	1061	12	998	12		
37Y	110.05	1061	36	1124	30		
38X		1062	12	999	12	110.10	334.40

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
38Y		1062	36	1125	30	110.15	334.25
39X	110.20	1063	12	1000	12		
39Y	110.25	1063	36	1126	30		
40X		1064	12	1001	12	110.30	335.00
40Y		1064	36	1127	30	110.35	334.85
41X	110.40	1065	12	1002	12		
41Y	110.45	1065	36	1128	30		
42X		1066	12	1003	12	110.50	329.60
42Y		1066	36	1129	30	110.55	329.45
43X	110.60	1067	12	1004	12		
43Y	110.65	1067	36	1130	30		
44X		1068	12	1005	12	110.70	330.20
44Y		1068	36	1131	30	110.75	330.05
45X	110.80	1069	12	1006	12		
45Y	110.85	1069	36	1132	30		
46X		1070	12	1007	12	110.90	330.80
46Y		1070	36	1133	30	110.95	330.65
47X	111.00	1071	12	1008	12		
47Y	111.05	1071	36	1134	30		
48X		1072	12	1009	12	111.10	331.70
48Y		1072	36	1135	30	111.15	331.55
49X	111.20	1073	12	1010	12		
49Y	111.25	1073	36	1136	30		
50X		1074	12	1011	12	111.30	332.30
50Y		1074	36	1137	30	111.35	332.15

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
51X	111.40	1075	12	1012	12		
51Y	111.45	1075	36	1138	30		
52X		1076	12	1013	12	111.50	332.90
52Y		1076	36	1139	30	111.55	332.75
53X	111.60	1077	12	1014	12		
53Y	111.65	1077	36	1140	30		
54X		1078	12	1015	12	111.70	333.50
54Y		1078	36	1141	30	111.75	333.35
55X	111.80	1079	12	1016	12		
55Y	111.85	1079	36	1142	30		
56X		1080	12	1017	12	111.90	331.10
56Y		1080	36	1143	30	111.95	330.95
57X	112.00	1081	12	1018	12		
57Y	112.05	1081	36	1144	30		
58X	112.10	1082	12	1019	12		
58Y	112.15	1082	36	1145	30		
59X	112.20	1083	12	1020	12		
59Y	112.25	1083	36	1146	30		
60X		1084	12	1021	12		
60Y		1084	36	1147	30		
61X		1085	12	1022	12		
61Y		1085	36	1148	30		
62X		1086	12	1023	12		
62Y		1086	36	1149	30		
63X		1087	12	1024	12		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
63Y		1087	36	1150	30		
64X		1088	12	1151	12		
64Y		1088	36	1025	30		
65X		1089	12	1152	12		
65Y		1089	36	1026	30		
66X		1090	12	1153	12		
66Y		1090	36	1027	30		
67X		1091	12	1154	12		
67Y		1091	36	1028	30		
68X		1092	12	1155	12		
68Y		1092	36	1029	30		
69X		1093	12	1156	12		
69Y		1093	36	1030	30		
70X	112.30	1094	12	1157	12		
70Y	112.35	1094	36	1031	30		
71X	112.40	1095	12	1158	12		
71Y	112.45	1095	36	1032	30		
72X	112.50	1096	12	1159	12		
72Y	112.55	1096	36	1033	30		
73X	112.60	1097	12	1160	12		
73Y	112.65	1097	36	1034	30		
74X	112.70	1098	12	1161	12		
74Y	112.75	1098	36	1035	30		
75X	112.80	1099	12	1162	12		
75Y	112.85	1099	36	1036	30		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
76X	112.90	1100	12	1163	12		
76Y	112.95	1100	36	1037	30		
77X	113.00	1101	12	1164	12		
77Y	113.05	1101	36	1038	30		
78X	113.10	1102	12	1165	12		
78Y	113.15	1102	36	1039	30		
79X	113.20	1103	12	1166	12		
79Y	113.25	1103	36	1040	30		
80X	113.30	1104	12	1167	12		
80Y	113.35	1104	36	1041	30		
81X	113.40	1105	12	1168	12		
81Y	113.45	1105	36	1041	30		
82X	113.50	1106	12	1169	12		
82Y	113.55	1106	36	1043	30		
83X	113.60	1107	12	1170	12		
83Y	113.65	1107	36	1044	30		
84X	113.70	1108	12	1171	12		
84Y	113.75	1108	36	1045	30		
85X	113.80	1109	12	1172	12		
85Y	113.85	1109	36	1046	30		
86X	113.90	1110	12	1173	12		
86Y	113.95	1110	36	1047	30		
87X	114.00	1111	12	1174	12		
87Y	114.05	1111	36	1048	30		
88X	114.10	1112	12	1175	12		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
88Y	114.15	1112	36	1049	30		
89X	114.20	1113	12	1176	12		
89Y	114.25	1113	36	1050	30		
90X	114.30	1114	12	1177	12		
90Y	114.35	1114	36	1051	30		
91X	114.40	1115	12	1178	12		
91Y	114.45	1115	36	1052	30		
92X	114.50	1116	12	1179	12		
92Y	114.55	1116	36	1053	30		
93X	114.60	1117	12	1180	12		
93Y	114.65	1117	36	1054	30		
94X	114.70	1118	12	1181	12		
94Y	114.75	1118	36	1055	30		
95X	114.80	1119	12	1182	12		
95Y	114.85	1119	36	1056	30		
96X	114.90	1120	12	1183	12		
96Y	114.95	1120	36	1057	30		
97X	115.00	1121	12	1184	12		
97Y	115.05	1121	36	1058	30		
98X	115.10	1122	12	1185	12		
98Y	115.15	1122	36	1059	30		
99X	115.20	1123	12	1186	12		
99Y	115.25	1123	36	1060	30		
100X	115.30	1124	12	1187	12		
100Y	115.35	1124	36	1061	30		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
101X	115.40	1125	12	1188	12		
101Y	115.45	1125	36	1062	30		
102X	115.50	1126	12	1189	12		
102Y	115.55	1126	36	1063	30		
103X	115.60	1127	12	1190	12		
103Y	115.65	1127	36	1064	30		
104X	115.70	1128	12	1191	12		
104Y	115.75	1128	36	1065	30		
105X	115.80	1129	12	1192	12		
105Y	115.85	1129	36	1066	30		
106X	115.90	1130	12	1193	12		
106Y	115.95	1130	36	1067	30		
107X	116.00	1131	12	1194	12		
107Y	116.05	1131	36	1068	30		
108X	116.1	1132	12	1195	12		
108Y	116.15	1132	36	1069	30		
109X	116.20	1133	12	1196	12		
109Y	116.25	1133	36	1070	30		
110X	116.30	1134	12	1197	12		
110Y	116.35	1134	36	1071	30		
111X	116.40	1135	12	1198	12		
111Y	116.45	1135	36	1072	30		
112X	116.5	1136	12	1199	12		
112Y	116.55	1136	36	1073	30		
113X	116.6	1137	12	1200	12		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
113Y	116.65	1137	36	1074	30		
114X	116.70	1138	12	1201	12		
114Y	116.75	1138	36	1075	30		
115X	116.80	1139	12	1202	12		
115Y	116.85	1139	36	1076	30		
116X	116.90	1140	12	1203	12		
116Y	116.95	1140	36	1077	30		
117X	117.00	1141	12	1204	12		
117Y	117.05	1141	36	1078	30		
118X	117.10	1142	12	1205	12		
118Y	117.15	1142	36	1079	30		
119X	117.20	1143	12	1206	12		
119Y	117.25	1143	36	1080	30		
120X	117.30	1144	12	1207	12		
120Y	117.35	1144	36	1081	30		
121X	117.40	1145	12	1208	12		
121Y	117.45	1145	36	1082	30		
122X	117.50	1146	12	1209	12		
122Y	117.55	1146	36	1083	30		
123X	117.60	1147	12	1210	12		
123Y	117.65	1147	36	1084	30		
124X	117.70	1148	12	1211	12		
124Y	117.75	1148	36	1085	30		
125X	117.80	1149	12	1212	12		
125Y	117.85	1149	36	1086	30		

Channel	VOR MHz	DME/TACAN				ILS	
		Airborne		Ground			
		Int. Freq. MHz	Pulse Code μsec	Reply Freq. MHz	Pulse Code μsec	Localizer MHz	Glide Slope MHz
126X	117.90	1150	12	1213	12		
126Y	117.95	1150	36	1087	30		

4.3.6 Channeling Plan for Assignments in the Band 29.89-50 MHz

This plan is a guide for identifying the center frequencies normally used for assignments with necessary bandwidths equal to or less than 16 kHz.

CONDITIONS AND LIMITATIONS

1. *Narrowband Operations.* Assignments with necessary bandwidths equal to or less than 16 kHz (narrowband assignments) may be authorized on the center frequencies shown in this plan and on qualified interstitial channels. A “qualified interstitial channel" is one which:

a. Has a center frequency which falls exactly halfway between two adjacent center frequencies shown in this plan,

b. does not overlap an all-government-agencies (AGA) channel,

c. will result in more efficient use of the spectrum, and

d. has been properly coordinated with all affected agencies.

2. *Wideband Operations.* Assignments with necessary bandwidths greater than 16 kHz (wideband assignments) may also be authorized in this band, provided such assignments:

a. Do not exceed 40 kHz of necessary bandwidth,

b. do not overlap an all-government-agencies (AGA) channel,

c. are positioned between the center frequencies shown in this plan when this will result in more efficient use of the spectrum,

d. have been properly coordinated with all affected agencies, and

e. are needed to satisfy requirements which cannot be accommodated with narrowband state-of-the-art equipment, or

f. are in direct support of military tactical and training operations which conform to the conditions and limitations of Section 7.15.4.

3. *Use of Coded Squelch.* Coded squelch (squelch control techniques) will be used whenever this technique will promote more efficient use of the spectrum; e.g. use of fewer frequencies, sharing of frequencies, reduction or elimination of interference, etc.

EXCEPTIONS

Exceptions to the above conditions and limitations will be considered by the FAS on a case-by-case basis.

29.90						
30.01	32.01	34.01	36.01		40.01	41.01
.03	.03	.03	.03		.03	.03
.05	.05	.05	.05		.05	.05
.07	.07	.07	.07		.07	.07
.09	.09	.09	.09		.09	.09
.11	.11	.11	.11		.11	.11
.13	.13	.13	.13		.13	.13
.15	.15	.15	.15		.15	.15
.17	.17	.17	.17		.17	.17
.19	.19	.19	.19		.19	.19
.21	.21	.21	.21		.21	.21
.23	.23	.23	.23		.23	.23
.25	.25	.25	.25		.25	.25
.27	.27	.27	.27	38.27	.27	.27
.29	.29	.29	.29	.29	.29	.29
.31	.31	.31	.31	.31	.31	.31
.33	.33	.33	.33	.33	.33	.33
.35	.35	.35	.35	.35	.35	.35
.37	.37	.37	.37	.37	.37	.37
.39	.39	.39	.39	.39	.39	.39
.41	.41	.41	.41	.41	.41	.41
.43	.43	.43	.43	.43	.43	.43
.45	.45	.45	.45	.45	.45	.45
.47	.47	.47	.47	.47	.47	.47
.49	.49	.49	.49	.49	.49	.49
.51	.51	.51	.51	.51	.51	.51
.53	.53	.53	.53	.53	.53	.53
.55	.55	.55	.55	.55	.55	.55

	.57	.57	.57	.57	.57	.57		
	.59	.59	.59	.59	.59	.59		
	.61	.61	.61	.61	.61	.61	46.61	49.61
	.63	.63	.63	.63	.63	.63	.63	.63
	.65	.65	.65	.65	.65	.65	.65	.65
	.67	.67	.67	.67	.67	.67	.67	.67
	.69	.69	.69	.69	.69	.69	.69	.69
	.71	.71	.71	.71	.71	.71	.71	.71
	.73	.73	.73	.73	.73	.73	.73	.73
	.75	.75	.75	.75	.75	.75	.75	.75
	.77	.77	.77	.77	.77	.77	.77	.77
	.79	.79	.79	.79	.79	.79	.79	.79
	.81	.81	.81	.81	.81	.81	.81	.81
	.83	.83	.83	.83	.83	.83	.83	.83
	.85	.85	.85	.85	.85	.85	.85	.85
32.87	34.87	36.87	38.87	40.87	41.87	46.87	49.87	
	.89	.89	.89	.89	.89	.89	.89	.89
	.91	.91	.91	.91	.91	.91	.91	.91
	.93	.93	.93	.93	.93	.93	.93	.93
	.95	.95	.95	.95	.95	.95	.95	.95
	.97	.97	.97	.97	.97	.97	.97	.97
	.99	.99	.99	.99	.99	.99	.99	.99

4.3.7 Channeling Plan for Assignments in the Band 162-174 MHz (25 kHz Plan)*

This plan is a guide for identifying the center frequencies normally used for assignments with necessary bandwidths equal to or less than 16 kHz.

CONDITIONS AND LIMITATIONS

1. *Narrowband Operations.* Assignments with necessary bandwidths equal to or less than 16 kHz (narrowband assignments) may be authorized on the center frequencies shown in this plan and on qualified interstitial channels. A "qualified interstitial channel" is one which:

a. Has a center frequency which falls exactly halfway between two adjacent center frequencies shown in this plan,

b. does not overlap an all-government-agencies (AGA) channel,

c. will result in more efficient use of the spectrum, and

d. has been properly coordinated with all affected agencies.

2. *Wideband Operations.* Assignments with necessary bandwidths greater than 16 kHz (wideband assignments) may be authorized in this band, provided such assignments:

a. Do not exceed 50 kHz of necessary bandwidth,

b. are needed to satisfy requirements which cannot be accommodated with narrowband state-of-the-art equipment,

c. do not overlap an all-government-agencies (AGA) channel,

d. have been properly coordinated with all affected agencies, and

e. are positioned between the center frequencies shown in this plan when this will result in more efficient use of the spectrum.

3. *Use of Coded Squelch.* Coded squelch (squelch control techniques) will be used whenever this technique will promote more efficient use of the spectrum; e.g. use of fewer frequencies, sharing of frequencies, reduction or elimination of interference, etc.

*** This Plan is effective until January 1, 2005 for systems existing prior to January 1, 1995. On January 1, 2005 this Plan is no longer effective and is replaced by the Narrow-band Channeling Plan (See Section 4.3.7a)**

EXCEPTIONS

Exceptions to the above conditions and limitations will be considered by the FAS on a case-by-case basis.

	163.000	164.006[3]	165.0125	166.000	167.000
162.025	.025	.025	.0375	.025	.025
.050	.050	.050	.0625	.050	.050
.075	.075	.075	.0675	.075	.075
.100	.100	.100	.1125	.100	.100
.125	.125	.125	.1375	.125	.125
.150	.150	.150	.1625	.150	.150
.175	.175	.175	.1875	.175	.175
.200	.200	.200	.2125	.200	.1940[3]
.225	.225	.225	.2375	.225	.2125
.250	.250	.250	.2625	.250	.250
.275	.275	.275	.2675	.275	.275
.300	.300	.300	.3125	.300	.2875
.325	.325	.325	.3375	.325	.3125
.350	.350	.350	.3625	.350	.3375
.375	.375	.375	.3875	.375	.3625
.400	.3940[3]	.400	.4125	.400	.3875
.425	.4125	.425	.4375	.4190[3]	.4125
.450	.4375	.450	.4625	.4375	.4375
.475	.4625	.475	.4875	.4625	.4625
.500	.4875	.500	.5125	.4875	.4875
.525	.5125	.525	.5375	.5125	.5125
.550	.5375	.550	.5625	.5375	.5375
.575	.5625	.575	.5875	.5625	.5625
.594[3]	.5875	.600	.6125	.5875	.5875
.6125	.6060[3]	.625	.6375	.6125	.6125
.6375	.625	.650	.6625	.6375	.6375
.6625	.650	.675	.6875	.6560[3]	.6625
.6875	.675	.700	.7125	.675	.6875
.7125	.700	.725	.7375	.700	.7125
.7375	.725	.750	.7625	.725	.7375
.7625	.750	.775	.7875	.750	.7625
.7875	.775	.800	.8060[3]	.775	.7875
.8060[3]	.7940[3]	.825	.825	.800	.8060[3]
.825	.8125	.8440	.850	.825	.825
.850	.8375	.8625	.875	.850	.850
.875	.8625	.8875	.900	.875	.875

.900	.8875	.9125	.925	.900	.900
.925	.9125	.9375	.950	.925	.925
.950	.9375	.9625	.975	.950	.950
.975	.9625	.9875		.975	.975
168.000	169.000	170.000	171.000	172.000	173.000
.025	.025	.025	.025	.025	.025
.050	.050	.050	.050	.050	.050
.075	.075	.075	.075	.075	.075
.100	.100	.100	.100	.100	.100
.125	.125	.125	.125	.125	.125
.150	.150	.150	.150	.150	.150
.175	.175	.175	.175	.175	.175
.200	.200	.200	.200	.200	.194[3]
.225	.225	.225	.219[3]	.225	
.250	.250	.250	.2375	.250	
.275	.275	.275	.2625	.275	
.300	.300	.300	.2675	.300	
.325	.325	.325	.3125	.325	
.350	.350	.350	.3375	.350	
.375	.375	.375	.3625	.375	
.400	.400	.400	.3875	.400	
.425	.425	.425	.4060[3]	.425	.4125
.450	.450	.450	.425	.450	.4375
.475	.475	.475	.450	.475	.4625
.500	.500	.500	.475	.500	.4875
.525	.525	.525	.500	.525	.5125
.550	.550	.550	.525	.550	.5375
.575	.575	.575	.550	.575	.5625
.600	.600	.600	.575	.600	.5875
.625	.625	.625	.600	.625	.6125
.650	.650	.650	.625	.650	.6375
.675	.675	.675	.650	.675	.6625
.700	.700	.700	.675	.700	.6875
.725	.725	.725	.700	.725	.7125
.750	.750	.750	.725	.750	.7375
.775	.775	.775	.750	.775	.7625
.800	.800	.800	.775	.800	.7875
.825	.825	.825	.800	.825	.8125
.850	.850	.850	.825	.850	.8375
.875	.875	.875	.850	.875	.8625
.900	.900	.900	.875	.900	.8875
.925	.925	.925	.900	.925	.9125
.950	.950	.950	.925	.950	.9375
.975	.975	.975	.950	.975	.9625
				.975	
.9675					

[3]See Section 4.3.8

4.3.7a Channeling Plan for Assignments in the Band 162-174 MHz (12.5 kHz Plan)

This plan is a guide for identifying the center frequencies used for assignments with necessary bandwidths equal to or less than 11 kHz, and may be used at present.

CONDITIONS AND LIMITATIONS

1. *Narrowband Operations.* Assignments with a necessary bandwidth equal to or less than 11 kHz (narrowband assignments) may be authorized on the center frequencies shown in this plan. Refer to Section 5.3.5.2 for appropriate technical standards. Narrowband assignments should not be made on channels adjacent to wideband assignments unless consideration is given to additional distance separation that may be required due to the increased potential for adjacent channel interference and after proper coordination with affected agencies.

After January 1, 1995, all new systems, and after January 1, 2005, all systems in the 162-174 MHz band must be capable of operating within a 12.5 kHz channel in accordance with the provisions set forth in Chapters 4 and 5 of the NTIA Manual.

2. *Wideband Operations.* Assignments with necessary bandwidths of greater than 11 kHz but less than 50 kHz will continue to be authorized in this band subject to the following conditions:

a. Wideband assignments for new systems will continue to be authorized until January 1, 1995. Renewals for wideband assignments may be granted through January 1, 2005, at which time all assignments must conform to the provisions set forth in paragraph 1 above and Section 5.6.2.

b. Exceptions to this rule may continue to be authorized on a case-by-case basis, provided they are needed to satisfy requirements and have been properly coordinated with all affected agencies.

3. *Use of Coded Squelch.* Coded squelch (squelch control techniques) will be used whenever this technique will promote more efficient use of the spectrum; e.g. use of fewer frequencies, sharing of frequencies, reduction or elimination of interference, etc.

4. *Time Division Multiple Access (TDMA) Operations.* TDMA systems, with at least 1 voice channel per 12.5 kHz, will be allowed and can be accommodated on adjacent 12.5 kHz channels listed in this channeling plan. The center frequency of the TDMA channel must be offset midway between the existing narrowband channels to avoid adjacent channel interference problems with existing or planned narrowband systems.

Refer to Part 5.6 for technical standards.

Channeling Plan for 162-174 MHz Band

	163.000	164.000[3]	165.000	166.000	167.000	168.000	169.000	170.000	171.000	172.000	173.000
	.0125	.0125[3]	.0125	.0125	.0125	.0125	.0125	.0125	.0125	.0125	.0125
162.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025	.025
.0375	.0375	.0375	.0375	.0375	.0375	.0375	.0375	.0375	.0375	.0375	.0375
.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050	.050
.0625	.0625	.0625	.0625	.0625	.0625	.0625	.0625	.0625	.0625	.0625	.0625
.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075	.075
.0875	.0875	.0875	.0875	.0875	.0875	.0875	.0875	.0875	.0875	.0875	.0875
.100	.100	.100	.100	.100	.100	.100	.100	.100	.100	.100	.100
.1125	.1125	.1125	.1125	.1125	.1125	.1125	.1125	.1125	.1125	.1125	.1125
.125	.125	.125	.125	.125	.125	.125	.125	.125	.125	.125	.125
.1375	.1375	.1375	.1375	.1375	.1375	.1375	.1375	.1375	.1375	.1375	.1375
.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150
.1625	.1625	.1625	.1625	.1625	.1625	.1625	.1625	.1625	.1625	.1625	.1625
.175	.175	.175	.175	.175	.175	.175	.175	.175	.175	.175	.175
.1875	.1875	.1875	.1875	.1875	.1875	.1875	.1875	.1875	.1875	.1875	.1875
.200	.200	.200	.200	.200	.200 [3]	.200	.200	.200	.200	.200	
.2125	.2125	.2125	.2125	.2125	.2125	.2125	.2125	.2125	.2125	.2125	
.225	.225	.225	.225	.225	.225	.225	.225	.225	.225 [3]	.225	
.2375	.2375	.2375	.2375	.2375	.2375	.2375	.2375	.2375	.2375	.2375	
.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	.250	
.2625	.2625	.2625	.2625	.2625	.2625	.2625	.2625	.2625	.2625	.2625	
.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	.275	
.2875	.2875	.2875	.2875	.2875	.2875	.2875	.2875	.2875	.2875	.2875	
.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	.300	
.3125	.3125	.3125	.3125	.3125	.3125	.3125	.3125	.3125	.3125	.3125	
.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	.325	
.3375	.3375	.3375	.3375	.3375	.3375	.3375	.3375	.3375	.3375	.3375	
.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	.350	
.3625	.3625	.3625	.3625	.3625	.3625	.3625	.3625	.3625	.3625	.3625	
.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	.375	
.3875	.3875	.3875	.3875	.3875	.3875	.3875	.3875	.3875	.3875	.3875	
.400	.400 [3]	.400	.400	.400	.400	.400	.400	.400	.400 [3]	.400	
.4125	.4125	.4125	.4125	.4125	.4125	.4125	.4125	.4125	.4125[3]	.4125	.4125
.425	.425	.425	.425	.425 [3]	.425	.425	.425	.425	.425	.425	.425
.4375	.4375	.4375	.4375	.4375	.4375	.4375	.4375	.4375	.4375	.4375	.4375
.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450	.450
.4625	.4625	.4625	.4625	.4625	.4625	.4625	.4625	.4625	.4625	.4625	.4625
.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475	.475
.4875	.4875	.4875	.4875	.4875	.4875	.4875	.4875	.4875	.4875	.4875	.4875
.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500
.5125	.5125	.5125	.5125	.5125	.5125	.5125	.5125	.5125	.5125	.5125	.5125
.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525	.525
.5375	.5375	.5375	.5375	.5375	.5375	.5375	.5375	.5375	.5375	.5375	.5375
.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550	.550
.5625	.5625	.5625	.5625	.5625	.5625	.5625	.5625	.5625	.5625	.5625	.5625
.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575	.575
.5875	.5875	.5875	.5875	.5875	.5875	.5875	.5875	.5875	.5875	.5875	.5875
.600 [3]	.600 [3]	.600	.600	.600	.600	.600	.600	.600	.600	.600	.600
.6125	.6125	.6125	.6125	.6125	.6125	.6125	.6125	.6125	.6125	.6125	.6125
.6250	.6250	.6250	.6250	.6250	.6250	.6250	.6250	.6250	.6250	.6250	.6250
.6375	.6375	.6375	.6375	.6375	.6375	.6375	.6375	.6375	.6375	.6375	.6375
.650	.650	.650	.650	.650 [3]	.650	.650	.650	.650	.650	.650	.650
.6625	.6625	.6625	.6625	.6625[3]	.6625	.6625	.6625	.6625	.6625	.6625	.6625
.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675	.675
.6875	.6875	.6875	.6875	.6875	.6875	.6875	.6875	.6875	.6875	.6875	.6875
.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700	.700
.7125	.7125	.7125	.7125	.7125	.7125	.7125	.7125	.7125	.7125	.7125	.7125
.725	.725	.725	.725	.725	.725	.725	.725	.725	.725	.725	.725
.7375	.7375	.7375	.7375	.7375	.7375	.7375	.7375	.7375	.7375	.7375	.7375
.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750	.750
.7625	.7625	.7625	.7625	.7625	.7625	.7625	.7625	.7625	.7625	.7625	.7625
.775	.775	.775	.775	.775	.775	.775	.775	.775	.775	.775	.775
.7875	.7875	.7875	.7875	.7875	.7875	.7875	.7875	.7875	.7875	.7875	.7875
.800 [3]	.800 [3]	.800	.800 [3]	.800	.800 [3]	.800	.800	.800	.800	.800	.800
.8125[3]	.8125	.8125	.8125[3]	.8125	.8125[3]	.8125	.8125	.8125	.8125	.8125	.8125
.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825	.825

.8375	.8375	.8375	.8375	.8375	.8375	.8375	.8375	.8375	.8375	.8375	.8375
162.850	163.850	164.850	165.850	166.850	167.850	168.850	169.850	170.850	171.850	172.850	173.850
.8625	.8625	.8625	.8625	.8625	.8625	.8625	.8625	.8625	.8625	.8625	.8625
.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875	.875
.8875	.8875	.8875	.8875	.8875	.8875	.8875	.8875	.8875	.8875	.8875	.8875
.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900	.900
.9125	.9125	.9125	.9125	.9125	.9125	.9125	.9125	.9125	.9125	.9125	.9125
.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925	.925
.9375	.9375	.9375	.9375	.9375	.9375	.9375	.9375	.9375	.9375	.9375	.9375
.950	.950	.950	.950	.950	.950	.950	.950	.950	.950	.950	.950
.9625	.9625	.9625	.9625	.9625	.9625	.9625	.9625	.9625	.9625	.9625	.9625
.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975	.975
.9875	.9875	.9875	.9875	.9875	.9875	.9875	.9875	.9875	.9875	.9875	.9875

[3]See Section 4.3.8a

4.3.8 Channeling Plan for Splinter Channel Assignments in the Band 162-174 MHz (25 kHz Plan)*

The frequencies shown in this plan are available for assignment to all Government agencies in accordance with allocation footnote G5 and as specified herein.

162.590625[1]	166.415625[1]
.593750[2]	.418750[2]
.596875[1]	.421875[1]
.803125[1]	.653125[1]
.806250[2]	.656250[2]
.808375[1]	.658375[1]
163.390625[1]	167.190625[1]
.393750[2]	.193750[2]
.396875[1]	.196875[1]
.603125[1]	.803125[1]
.606250[2]	.806250[2]
.609375[1]	.809375[1]
.790625[1]	
.793750[2]	171.215625[1]
.796875[1]	.218750[2]
	.221875[1]
164.003125[1]	.403125[1]
.006250[2]	.406250[2]
.009375[1]	.409375[1]
164.840625[1]	
.843750[2]	173.190625[1]
.846875[1]	.193750[2]
	.196875[1]
165.803125[1]	
.806250[2]	
.809375[1]	

[1]These frequencies are available for operations requiring a bandwidth up to 5 kHz.

[2]These frequencies are available for operations requiring a bandwidth between 5 and 10 kHz, inclusive.

CONDITIONS FOR USE

1. Use of voice will not be authorized except for maintenance support of the primary operation. Any authorized emission will be construed to permit use of voice for this purpose, provided such use does not exceed the authorized bandwidth.

2. Audio tone frequencies may be entered on applications in the CIRCUIT REMARKS field following the identifying code *AGN. Use of a continuous carrier with the associated tone may be indicated, including use of a continuous tone transmitted simultaneously only when other tones that carry the intelligence are transmitted.

Examples: *AGN, 450, 475, 625; *AGN, 450, 475C, 625.

3. The technical standards applicable to the use of the splinter channels listed above are shown in paragraph 3 of Section 5.2.1.

4. Directional antennas shall be used where practicable on point-to-point circuits.

5. Prior to filing an application for a splinter channel with footnote 1, coordination shall be effected with any agency with adjacent channel assignments within the same splinter channel in the same geographic area.

*** This Plan is effective until January 1, 2005 for systems existing prior to January 1, 1995. On January 1, 2005, this Plan is no longer effective and is replaced by the Narrow-band Channeling Plan (See Section 4.3.8a).**

4.3.8a Channeling Plan for Low Power Non-Voice Assignments in the Band 162-174 MHz (12.5 kHz Plan)

The frequencies shown in this plan are available for assignment to all Government agencies in accordance with allocation footnote G5 and as specified herein.

162.596875[2]	166.421875[2]
.6[1]	.425[1]
.603125[2]	.428125[2]
.796875[2]	.646875[2]
.8[1]	.65[1]
.803125[2]	.653125[2]
.809375[2]	.659375[2]
.8125[1]	.6625[1]
.815625[2]	.665625[2]
163.396875[2]	167.196875[2]
.4[1]	.2[1]
.403125[2]	.203125[2]
.596875[2]	.796875[2]
.6[1]	.8[1]
.603125[2]	.803125[2]
.609375[2]	.809375[2]
.6125[1]	.8125[1]
.615625[2]	.815625[2]
.796875[2]	
.8[1]	171.221875[2]
.803125[2]	.225[1]
	.228125[2]
163.996875[2]	.396875[2]
164.0[1]	.4[1]
164.003125[2]	171.403125[2]
.009375[2]	.409375[2]
.0125[1]	.4125[1]
.015625[2]	.415625[2]
.846875[2]	
.85[1]	
.853125[2]	
165.796875[2]	
.8[1]	
.803125[2]	
.809375[2]	
.8125[1]	
.815625[2]	

[1]These frequencies are available for operations requiring a bandwidth up to 11 kHz.

[2]These frequencies are available for operations requiring a bandwidth up to 5 kHz.

CONDITIONS FOR USE

1. Use of voice will not be authorized except for maintenance support of the primary operation.

2. The technical standards applicable to the use of the channels listed above are shown in Section 5.2.1.

3. Directional antennas shall be used where practicable on point-to-point circuits.

4. Transmitter output power shall not exceed 5 watts.

5. Wherever practical, frequencies in the 406.1-420 MHz band, (Section 4.3.9) or the 932.5-935 and 941.5-944 MHz bands, (Section 4.3.14) should be used in lieu of the above frequencies.

6. Exceptions to these conditions will be considered on a case-by-case basis.

4.3.9 Channeling Plan for Assignments in the Band 406.1-420 MHz

This plan is a guide for identifying the center frequencies normally used for assignments with necessary bandwidths equal to or less than 16 kHz.

CONDITIONS AND LIMITATIONS

1. *Narrowband Operations.*

Assignments for single channel operations (e.g. analog FM with necessary bandwidths equal to 16 kHz) may be authorized on the center frequencies shown in this plan and on qualified interstitial channels. A “qualified interstitial channel” is one which:

a. Has a center frequency which falls exactly halfway between two adjacent center frequencies shown in this plan,

b. does not overlap an all-Government-agencies (AGA) channel,

c. will result in more efficient use of the spectrum, and

d. has been properly coordinated with all affected agencies.

2. *Wideband Operations*

a. Within the Wideband Subbands. Two subbands (406.4875-407.1125 and 416.4375-416.7625 MHz) are available for assignments that can not be wholly contained within a 25 kHz channel (e.g. multichannel FM). Such assignments may be authorized within these subbands, provided they:

(1) Have necessary bandwidths which can be wholly contained within the particular subband,

(2) have been properly coordinated with all affected agencies, and

(3) are positioned between the center frequencies shown in this plan when this will result in more efficient use of the spectrum.

b. Outside the Wideband Subbands. Wideband assignments may be authorized outside the wideband subbands, provided such assignments:

(1) Do not exceed 100 kHz of necessary bandwidth,

(2) do not overlap an all-Government-agencies (AGA) channel,

(3) have been properly coordinated with all affected agencies, and

(4) are positioned between the center frequen-

cies shown in this plan when this will result in more efficient use of the spectrum.

3. *Use of Coded Squelch.* Coded squelch (squelch control techniques) will be used whenever this technique will promote more efficient use of the spectrum; e.g., use of fewer frequencies, sharing of frequencies, reduction or elimination of interference, etc.

4. *Use of Trunked Land-Mobile Systems.*[3] This plan provides for blocks of channels identified primarily for Federal Government trunked land-mobile system use. The plan includes 20 channel pairs grouped in 5 transmit channels and 5 corresponding receive channels.

a. Channel Selections: Group 1 channels should be selected first, then sequentially those in Groups 2, 3, and 4, listed below. It is recognized that channels identified herein may not be available for trunked use in certain locations. However, when such situations occur, alternate channels can be substituted on a case-by-case basis.

b. The channels listed below are designated primarily for Federal Government trunked land-mobile systems. They may also be used for non-trunked systems, but only to expand existing systems, when it is not technically feasible to use other frequencies.

GROUP 1

406.35	415.15
407.15	415.95
407.95	416.75
408.75	417.55
409.55	418.35

GROUP 2

406.75	414.75
407.55	415.55
408.35	416.35
409.15	417.15
409.95	417.95

GROUP 3

406.55	415.35
407.35	416.15
408.15	416.95
408.95	417.75
409.75	418.55

GROUP 4

406.95	414.95
407.75	415.75
408.55	416.55
409.35	417.35
410.15	418.15

EXCEPTIONS

Exceptions to the above conditions and limitations will be considered by the FAS on a case-by-case basis.

	407.000	408.000	409.000	410.000	411.000
	.025	.025	.025	.025	.025
	.050	.050	.050	.050	.050
	.075	.075	.075	.075	.075
	.100	.100	.100	.100	.100
406.125	.125	.125	.125	.125	.125
.150	.150	.150	.150	.150	.150
.175	.175	.175	.175	.175	.175
.200	.200	.200	.200	.200	.200
.225	.225	.225	.225	.225	.225
.250	.250	.250	.250	.250	.250
.275[4]	.275	.275	.275	.275	.275
.300	.300	.300	.300	.300	.300
.325	.325	.325	.325	.325	.325
.350	.350	.350	.350	.350	.350
.375	.375	.375	.375	.375	.375
.400	.400	.400	.400	.400	.400
.425	.425	.425	.425	.425	.425
.450	.450	.450	.450	.450	.450
.475	.475	.475	.475	.475	.475
.500	.500	.500[4]	.500	.500	.500
.525	.525	.525	.525	.525	.525
.550	.550	.550	.550	.550	.550
.575	.575	.575	.575	.575	.575
.600	.600	.600	.600	.600	.600
.625	.625	.625	.625	.625	.625
.650	.650	.650	.650	.650	.650
.675	.675	.675	.675	.675	.675
.700	.700	.700	.700	.700	.700
.725	.725	.725	.725	.725	.725
.750	.750	.750	.750	.750	.750
.775	.775	.775	.775	.775	.775
.825	.825	.825	.825	.825	.825
.850	.850	.850	.850	.850	.850
.875	.875	.875	.875[4]	.875	.875
.900	.900	.900	.900	.900	.900
.925	.925	.925	.925	.925	.925
.950	.950	.950	.950	.950	.950
.975	.975	.975[4]	.975	.975	.975

412.000	413.000	414.000	415.000	416.000	417.000
.025	.025	.025	.025	.025	.025
.050	.050	.050	.050	.050	.050
.075	.075	.075	.075	.075	.075
.100	.100	.100	.100	.100	.100
.125	.125	.125	.125	.125	.125
.150	.150	.150	.150	.150	.150
.175	.175	.175	.175	.175	.175
.200	.200	.200	.200	.200	.200
.225	.225	.225	.225	.225	.225
.250	.250	.250	.250	.250	.250
.275	.275	.275	.275	.275	.275
.300	.300	.300	.300	.300	.300
.325	.325	.325	.325	.325	.325
.350	.350	.350	.350	.350	.350
.375	.375	.375	.375	.375	.375
.400	.400	.400	.400	.400	.400
.425	.425	.425	.425	.425	.425
.450	.450	.450	.450	.450	.450
.475	.475	.475	.475	.475	.475
.500	.500	.500	.500	.500	.500
.525	.525	.525	.525	.525	.525
.550	.550	.550	.550	.550	.550
.575	.575	.575	.575	.575	.575

.600	.600	.600	.600	.600	.600
.625	.625	.625	.625	.625	.625
.650	.650	.650	.650	.650	.650
.675	.675	.675	.675	.675	.675
.700	.700	.700	.700	.700	.700
.725	.725	.725	.725	.725	.725
.750	.750	.750	.750	.750	.750
.775	.775	.775	.775	.775	.775
.800	.800	.800	.800	.800[4]	.800
.825	.825	.825	.825	.825	.825
.850	.850	.850	.850	.850	.850
.875	.875	.875	.875	.875	.875
.900	.900	.900	.900	.900	.900
.925	.925	.925	.925	.925	.925
.950	.950	.950	.950	.950	.950
.975	.975	.975	.975	.975	.975

418.000	419.000
.025	.025
.050	.050
.075	.075
.100	.100
.125	.125
.150	.150
.175	.175
.200	.200
.225	.225
.250	.250
.275	.275
.300	.300
.325	.325
.350	.350
.375	.375
.400	.400
.425	.425
.450	.450
.475	.475
.500	.500
.525	.525
.550	.550
.575	.575
.600	.600
.625	.625
.650	.650
.675	.675
.700	.700
.725	.725
.750	.750
.775	.775
.800	.800
.825	.825
.850	.850
.875	.875
.900	.900
.925	.925
.950	.950
.975	.975
	.993[4]

[4]See section 4.3.10.

4.3.10 Channeling Plan for Splinter Channel Assignments in the Band 406.1-420 MHz

The frequencies shown in this plan are available for assignment to all Government agencies in accordance with allocation footnote G5 and as specified in this Section.

M406.265625[1]	M409.865625[1]
.268750[2]	.868750[2]
.271875[1]	.871875[1]
.278125[1]	.878125[1]
.281250[2]	.881250[2]
.284375[1]	.884375[1]
M408.490625[1]	M416.790625[1]
.493750[2]	.793750[2]
.496875[1]	.796875[1]
.503125[1]	.803125[1]
.506250[2]	.806250[2]
.509375[1]	.809375[1]
.965625[1]	
.968750[2]	M419.990625[1]
.971875[1]	.993750[2]
.978125[1]	.996875[1]
.981250[2]	
.984375[1]	

1 This frequency is available for operations requiring up to 5 kHz authorized bandwidth.

2 This frequency is available for operations requiring an authorized bandwidth between 5 and 10 kHz, inclusive.

CONDITIONS FOR USE

1. The technical standards applicable to the use of above splinter channels are shown in Section 5.2.1.
2. Directional antennas shall be used on point- to-point circuits.
3. Prior to filing an application for a splinter channel, coordination shall be effected with existing splinter channel users in the same geographical area utilizing assigned frequencies spaced within ± 18.750 kHz from the requested frequency.
4. The above splinter channels were derived by splitting the upper and lower 12½ kHz sidebands of a standard 25 kHz channel into four segments each with 6¼ kHz bandwidth. Within the same geographical area, each 12½ kHz sideband may be optionally assigned either for one splinter channel with a necessary bandwidth between 5 to 10 kHz inclusive, or for two splinter channels requiring up to 5 kHz necessary bandwidth.

4.3.11 Plan for Bio-Medical Telemetry and Medical Radiocommunication

BIO-MEDICAL TELEMETRY ONLY

38-41 MHz	See Annex K
174-216 MHz	See Annex K
460.650-460.875	See US209 in Section 4.1.3
465.650-465.875	See US209 in Section 4.1.3

MEDICAL RADIOCOMMUNICATION

The following frequencies may be authorized for the purpose of conducting radio operations for the delivery or rendition of medical services to individuals, subject to the indicated limitations.

Frequency (MHz	Class of Station(s)	Limitation
150.775 150.790	Mobile only Mobile only	1 1
152.0075 163.250	Base Base	2 2
462.950 462.975	Base and Mobile Base and Mobile	3,5 3,5
463.000 463.025 463.050	Base and Mobile Base and Mobile Base and Mobile	3,4,6,7 3,4,6,7 3,4,6,7
463.075 463.100 463.125 463.150 463.175	Base and Mobile Base and Mobile Base and Mobile Base and Mobile Base and Mobile	3,4,7,8 3,4,7,8 3,4,7,8 3,4,7,8 3,4,7,8
467.950 467.975	Mobile Only Mobile Only	3,5,9 3,5,9
468.000 468.025 468.050 468.075 468.100 468.125 468.150 468.175	Mobile Only Mobile Only Mobile Only Mobile Only Mobile Only Mobile Only Mobile Only Mobile Only	3,4,6,7,9 3,4,6,7,9 3,4,6,7,9 3,4,6,7,8 3,4,6,7,8 3,4,6,7,9 3,4,6,7,9 3,4,6,7,9

1. This frequency may be authorized only for voice transmission from a portable (hand-held) unit, that is not airborne, to an ambulance or other emergency vehicle for automatic retransmission (mobile-repeater) on a regular mobile frequency to a base station facility. Operation on this frequency is limited to 2.5 Watts output power.

2. This frequency may be authorized only for one-way paging communications to mobile receivers. Transmissions for the purpose of activating or controlling remote objects on this frequency will not be authorized.

3. For two-frequency systems, separation between base and mobile transmit frequencies is 5 MHz.

4. For applications for new radio systems received after August 15, 1974, the eight frequency pairs listed below will be assigned in a block for shared operations subject to the following:

a. For uniformity in usage, these frequency pairs may be referred to by channel name, as follows:

Base and Mobile MHz	Mobile Only MHz	Channel Name
463.000	468.000	MED-ONE
463.025	468.025	MED-TWO
463.050	468.050	MED-THREE
463.075	468.075	MED-FOUR
463.100	468.100	MED-FIVE
463.125	468.125	MED-SIX
463.150	468.150	MED-SEVEN
463.175	468.175	MED-EIGHT

b. Except as provided in subparagraphs e. and f. of this paragraph, mobile or portable stations must employ equipment which is both wired and equipped to transmit/receive, respectively, on each of these eight frequency pairs.

c. Except as provided in subparagraph f. of this paragraph, base and fixed stations[4] must employ equipment which is both wired and equipped to transmit/receive, respectively, on at least four (three, if bio-medical telemetry operation is not employed in the system) of these eight frequency pairs.

d. Multi-channel equipment requirements for use of these frequency pairs are intended to afford capability for alternating use of the individual frequencies, and ability to conduct simultaneous operations is not required. These requirements may be met in a single equipment unit or in any combination of equipment units suitable to the applicant's operations.

e. Portable (hand-held) units operated with a maximum output power of 2.5 watts are exempted from the multi-channel equipment requirements specified in subparagraph c. of this paragraph.

f. Stations located in the Canadian coordination zone (see Part 3.4), will be required to meet multi-channel equipment requirements only for those frequencies up to the number specified in subparagraphs b. and c. of this paragraph which have been assigned to the licensee after coordination with Canada in accordance with the applicable US-Canada agreement.

5. This frequency may be authorized for the dispatch of medical-care vehicles and personnel for the rendition or delivery of medical services. Central-dispatch operations serving multi-system requirements in an area-wide medical radio communications plan may be authorized and may include the designation of this frequency for intra-system and inter-system mutual assistance purposes.

6. This frequency may be authorized on a primary basis for operations in bio-medical telemetry systems. F1D, F2D, and F3E emissions may be authorized. On

a secondary basis, subject to non-interference to bio-medical telemetry systems, this frequency may be authorized for the transmission of messages related to the efficient administration of organizations and facilities engaged in medical services operations.

7. The continuous carrier mode of operation may be authorized for use of telemetry emission on this frequency.

8. This frequency may be authorized on a primary basis for communications, between medical facilities, vehicles, and personnel, related to medical supervision and instruction for treatment and transport of patients in the rendition or delivery of medical services. F2D and F3E emissions may be authorized. On a secondary basis, subject to noninterference to the foregoing types of operations, this frequency may be authorized for the transmission of messages related to the efficient administration of organizations and facilities engaged in medical services operations and for bio-medical telemetry transmissions, including the use of F1D emission.

9. This frequency may be assigned to a fixed station for the control of a base station repeater (FBR) if it is also assigned to the associated mobile station. Fixed stations operating on this frequency shall comply with the following requirements if they are located within 120 kilometers of the center of urbanized areas of 200,000 or more population.

a. If the station is used to control one or more base station repeaters located within 45 degrees of azimuth, a directional antenna having a front-to-back ratio of at least 15 dB shall be used at the fixed station. For other situations, where a directional antenna cannot be used, a cardioid, bi-directional or omni-directional antenna may be employed. In each case, the antenna used must, consistent with reasonable design, produce a radiation pattern that provides only the coverage necessary to permit satisfactory control of each base station repeater and limit radiation in other directions to the extent feasible.

b. The strength of the signal of a fixed station, controlling a single base station repeater, may not exceed by more than 6 dB, at the antenna terminal of the base station repeater receiver, the signal strength produced there by a unit of the associated mobile station. When the station controls more than one base station repeater, the 6 dB control-to-mobile signal difference need be verified at only one of the base station repeater sites. The measurement of the signal strength of the mobile unit must be made when such unit is transmitting from the fixed station location or, if that is not practical, from a location within 400 meters of the fixed station site.

c. Each application for a fixed station to be authorized under the provisions of this paragraph shall be accompanied by a statement certifying that the output power of the proposed station transmitter will be adjusted to comply with the foregoing signal level limitation. Records of the measurements used to determine the signal ratio shall be kept with the station records and shall be made available for inspection upon request.

d. Urbanized areas of 200,000 or more population are defined in the U.S. Census Population, 1960, Vol. 1, Table 23, Page 50. The centers of urbanized areas are determined from the Appendix, page 226, of the U.S. Commerce publication "Air Line Distance Between Cities in the United States."

4.3.12 Channeling Plan for Assignments in the Fixed Service in the 14500.0 to 14714.5 and 15136.5 to 15350.0 MHz

1. The following channeling plan became effective on January 1, 1982, for all assignments in the Fixed Service.

2. Existing assignments as of January 1, 1982 in the Fixed Service which are in the bands 14500.0 to 14714.5 MHz and 15136.5 to 15350.0 MHz that are not in compliance with the channeling plan may be retained until January 1, 1997. However, if existing equipment is replaced prior to January 1, 1997, assignments for the replaced equipment must be in accordance with the channeling plan.

3. This channeling plan is only applicable to assignments in the Fixed Service in the bands 14500.0 to 14714.5 and 15136.5 to 15350.0 MHz. The assigned frequency shall be chosen such that the frequency ±½ of its necessary bandwidth shall not extend beyond the upper or lower limits of bands indicated herein. A general breakdown of these bands is:

a. For emission bandwidths equal to or greater than 3.5 MHz:

14500.0 to 14710.0 MHz
15140.0 to 15350.0 MHz

b. For emission bandwidths less than 3.5 MHz:

14710.0 to 14714.5 MHz
15136.5 to 15140.0 MHz

4. Criteria for assignments in the Fixed Service with emission bandwidths equal to or greater than 3.5 MHz:

a. The assigned frequency must center on one of the frequencies given in Table 1.

b. Multiple contiguous channels are to be used for emission bandwidths of 3.5 MHz or greater.

c. In order to promote uniformity and to establish a natural guard band, it is strongly urged that frequencies be selected in pairs from the bands 14500.0 to 14710.0 and 15140.0 to 15350.0 on an equal basis.

5. Criteria for assignments in the Fixed Service with emission bandwidth of less than 3.5 MHz:

a. Assignments in the Fixed Service with emission bandwidths of less than 3.5 MHz are restricted to the bands:

14710.0 to 14714.5 MHz
and
15136.5 to 15140.0 MHz

b. Narrow-band assignments, those with less than 3.5 MHz of necessary bandwidth, shall not be made in the bands 14500.0 to 14710.0 and 15140.0 to 15350.0 MHZ.

TABLE 1

Center Frequencies (MHz) of 2.5 MHz Channels in the Bands 14500.0-14714.5 MHz and 15136.5-15350.0 MHz

14500.0-14714.5 MHz	15136.5-15350.0 MHz
*14501.25	*15141.25
14503.75	15143.75
14506.25	15146.25
14508.75	15148.75
14511.25	15151.25
14513.75	15153.75
14516.25	15156.25
14518.75	15158.75
14521.25	15161.25
14523.75	15163.75
14526.25	15166.25
14528.75	15168.75
14531.25	15171.25
14533.75	15173.75
14536.25	15176.25
14538.75	15178.75
14541.25	15181.25
14543.75	15183.75
14546.25	15186.25
14548.75	15188.75
14551.25	15191.25
14553.75	15193.75
14556.25	15196.25
14558.75	15198.75
14561.25	15201.25
14563.75	15203.75
14566.25	15206.25
14568.75	15208.75
14571.25	15211.25
14573.75	15213.75
14576.25	15216.25
14578.75	15218.75

TABLE 1 Continued

14581.25	15221.25
14583.75	15223.75
14586.25	15226.25
14588.75	15228.75
14591.25	15231.25
14593.75	15233.75
14596.25	15236.25
14598.75	15238.75
14601.25	15241.25
14603.75	15243.75
14606.25	15246.25

14608.75	15248.75
14611.25	15251.25
14613.75	15253.75
14616.25	15256.25
14618.75	15258.75
14621.25	15261.25
14623.75	15263.75
14626.25	15266.25
14628.75	15268.75
14631.25	15271.25
14633.75	15273.75
14636.25	15276.25
14638.75	15278.75
14641.25	15281.25
14643.75	15283.75
14646.25	15286.25
14648.75	15288.75
14651.25	15291.25
14653.75	15293.75
14656.25	15296.25
14658.75	15298.75
14661.25	15301.25
14663.75	15303.75
14666.25	15306.25
14668.75	15308.75
14671.25	15311.25

TABLE 1 Continued	
14673.75	15313.75
14676.25	15316.25
14678.75	15318.75
14681.25	15321.25
14683.75	15323.75
14686.25	15326.25
14688.75	15328.75
14691.25	15331.25
14693.75	15333.75
14696.25	15336.25
14698.75	15338.75
14701.25	15341.25
14703.75	15343.75
14706.25	15346.25
*14708.75	*15348.75

* These channels cannot be used for bandwidths greater than 2.5 MHz. Total number of channels available--168.

Channel No.	Carrier Frequency	Assigned Frequency
1	4000	4001.4
2	4003	4004.4
3	4006	4007.4
4	4009	4010.4

4.3.13 Channeling Plan for Assignments in the Maritime Mobile Service in the Bands 4000-4063 and 8100-8195 kHz

1. For the band 4000-4063 kHz:

a. Frequency assignments for ship stations in the band 4000-4063 kHz must conform to the channeling plan shown below in accordance with Appendix 16, Section C-1, of the International Radio Regulations.

b. Frequencies may be used by ship stations:

o for supplementing ship-to-shore channels for duplex operation with coast station channels listed in Table 1 of Annex H;

o for intership simplex (single-frequency) operation;

o for duplex operation with coast stations working in the band 4438-4650 kHz;

o effective 1 July 1991, for duplex operation with Channel Nos. 428 and 429 of Table 1, Annex H.

Table of Recommended Single-Sideband Transmitting Frequencies (in kHz) for Ship Stations in the Band 4000-4063 kHz

16	4045	4 0 46.4
17	4048	4049.4
18	4051	4052.4
19	4054	4055.4
20	4057	4058.4
21	4060	4061.4*
* Effective 1 July 1991, in the maritime mobile service, this frequency is available exclusively for non-government use.		

2. For the band 8100-8195 kHz:

a. Frequency assignments for maritime mobile stations in the band 8100-8195 kHz must conform to the channeling plan show below in accordance with Appendix 16, Section C-2, of the International Radio Regulations.

b. Frequencies may be used by maritime mobile stations:

o for supplementing ship-to-shore channels for duplex operation with coast station channels listed in Table 1 of Annex H;

o for intership simplex (single-frequency) operations;

o for ship-to-shore or shore-to-ship simplex operations;

o effective 1 July 1991, for duplex operation with Channel Nos. 834, 835, 836 and 837 of Table 1, Annex H.

Table of Recommended Single-Sideband Transmitting Frequencies (in kHz) for Ship and Coast Stations in the Band 8100-8195 kHz

Channel N0.	Carrier Frequency	Assigned Frequency
1	8101	8102.4
2	8104	8105.4
3	8107	8108.4
4	8110	8111.4
5	8113	8114.4*
6	8116	8117.4
7	8119	8120.4
8	8122	8123.4

9	8125	8126.4
10	8128	8129.4*
11	8131	8132.4
12	8134	8135.4
13	8137	8138.4
14	8140	8141.4
15	8143	8144.4
16	8146	8147.4
17	8149	8150.4
18	8152	8153.4
19	8155	8156.4
20	8158	8159.4
21	8161	8162.4
22	8164	8165.4
23	8167	8168.4
24	8170	8171.4
25	8173	8174.4
26	8176	8177.4
27	8179	8180.4

Channel No.	Carrier Frequency	Assigned Frequency
28	8182	8183.4
29	8185	8186.4
30	8188	8189.4
31	8191	8192.4

* Effective 1 July 1991, in the maritime mobile service, this frequency is available exclusively for non-government use.

4.3.14 Channeling Plan for Assignments in the Fixed Service in the Bands 932-935 MHz and 941-944 MHz

This plan is a guide for identifying the center frequencies of those paired frequencies that normally are used for assignments with a necessary bandwidth that can be accommodated within 12.5, 25, 50, 100 and 200 kHz. Transportable Operations are not permitted in the point-to-point bands 932.5-935.0 and 941.5-944.0 MHz. To permit flexibility, applicants for either point-to-point or point-to-multipoint channels will be permitted to combine channels upon a showing that there is a need and sufficient frequencies are available to permit this. Applicants may split channels if they choose to do so.

CONDITIONS AND LIMITATIONS

1. Point-to-Multipoint Assignments:

Table 1 contains a list of forty pairs of frequencies that are designated for use only in fixed point-to-multipoint assignments operating with a necessary bandwidth of 12.5 kHz or less, and which must involve the use of at least four receiving stations.

a. For paired frequency operations the 941-941.5 MHz frequencies will be used to transmit to the multipoint receiving stations, and the 932-932.5 MHz frequencies will be used for reverse link communications.

b. Unpaired, single frequency, one-way point-to-multipoint operations are permitted, using either of the paired frequencies. However, when the multipoint receiving stations are located less than 48 kilometers (30 miles) from the transmitting station, frequencies from the 932-932.5 MHz band must be used.

c. Point-to-point use of the 932-932.5 MHz frequencies will be permitted but only when the transmission is relayed by a station transmitting in the 941-941.5 MHz band to four or more receiving stations.

d. Frequencies will be used so as to facilitate communications on an interference-free basis in each operational/service area. In order to facilitate maximum reuse of frequencies, stations separated by 113 kilometers (70 miles) or more, and operating on the same frequency (co-channel), will be considered as interference free (see also Section 8.2.16). However, at distances of less than 113 km, reuse of a frequency (co-channel) will be permitted only upon providing evidence that the operation will not cause harmful interference to existing users.

2. Point-to-Point Assignments:

Table 2 contains a list of thirty pairs of frequencies that are designated for two-way use in fixed point-to-point operations with a necessary bandwidth of 200 kHz or less. Frequencies shall be selected in pairs. However, unpaired frequency use, or single frequency one-way use, will be permitted, but only upon showing that spectrum is not available in other bands and that paired use will not be adversely affected.

EXCEPTIONS

Exceptions to the above conditions and limitations will be considered by the FAS on a case-by-case basis.

TABLE 1

Paired Frequencies for Point-to-Multipoint Assignments (12.5 kHz Bandwidth)

MHz	MHz
932.00625	941.00625
932.01875	941.01875
932.03125	941.03125
932.04375	941.04375
932.05625	941.05625
932.06875	941.06875
TABLE 1 Continued	
932.08125	941.08125
932.09375	941.09375
932.10625	941.10625
932.11875	941.11875
932.13125	941.13125
932.14375	941.14375
932.15625	941.15625
932.16875	941.16875
932.18125	941.18125
932.19375	941.19375
932.20625	941.20625
932.21875	941.21875
932.23125	941.23125
932.24375	941.24375
932.25625	941.25625
932.26875	941.26875
932.28125	941.28125
932.29375	941.29375
932.30625	941.30625
932.31875	941.31875
932.33125	941.33125
932.34375	941.34375
932.35625	941.35625
932.36875	941.36875
932.38125	941.38125
932.39375	941.39375
932.40625	941.40625
932.41875	941.41875
932.43125	941.43125
932.44375	941.44375
932.45625	941.45625
932.46875	941.46875
932.48125	941.48125
932.49375	941.49375

TABLE 2

Paired Frequencies for Point-to-Point Assignments 25 kHz Bandwidth Pairs

MHz	MHz
932.5125	941.5125
932.5375	941.5375
932.5625	941.5625
932.5875	941.5875
932.6125	941.6125
632.6375	941.6375
932.6625	941.6625
934.8375	943.8375
934.8625	643.8625
934.8875	943.8875
934.9125	943.9125
934.9375	943.9375
934.9625	943.9625
934.9875	943.9875

50 kHz Bandwidth Pairs

MHz	**MHz**
932.7000	941.7000
932.7500	941.7500
934.8000	943.8000

100 kHz Bandwidth Pairs	
MHz	MHz
932.8250	941.8250
932.9250	941.9250
933.0250	942.0250
934.5250	943.5250
934.6250	943.6250
934.7250	943.7250

200 kHz Bandwidth Pairs	
MHz	MHz
933.1750	942.1750
933.3750	942.3750
933.5750	942.5750
933.7750	942.7750
933.9750	942.9750
934.1750	943.1750
934.3750	943.3750

4.3.15 Channeling Plan for Land Mobile Assignments in the Band 220-222 MHz

The following channeling plan is composed of 200 frequency pairs for shared Government/non-Government land-mobile operations with necessary bandwidths less than or equal to 4 kHz. Of these 200 channel pairs, 60 pairs are for nationwide use and 140 pairs are for shared local use. Of the 60 nationwide channel pairs, 10 are for exclusive Government use and 50 are for exclusive non-Government use. Of the 140 shared local-use channel pairs, 100 are available for trunked operations or other operations of equivalent or greater efficiency, 20 are set aside for data only operations until March 31, 2000, 10 are available for public safety/mutual aid, and the remaining 10 channel pairs have no restrictions on use.

The following table indicates the channel designations of frequencies (channel number, base station frequency and function) available for assignment under the following conditions: 1) Frequencies shall be assigned in pairs, with base station frequencies taken from the 220-221 MHz band, corresponding mobile frequencies being 1 MHz higher, taken from the 221-222 MHz band.
2) Only the lower half of the frequency pairs is listed in the table.

TABLE OF 220-222 MHz CHANNEL DESIGNATIONS (Channel Number, Base Frequency in MHz and Function)

Ch. #	Base Frequency (in MHz)	Function
1	220.0025	W4447
2	.0075	5
3	.0125	5
4	.0175	5
5	.0225	5
6	.0275	5
7	.0325	5
8	.0375	5
9	.0425	5
10	.0475	5
11	220.0525	:444U Trunked Systems
12	.0575	5 (See next paragraph -
13	.0625	5 Trunked Channel Groups)
14	.0675	5
15	.0725	5
16	.0775	5
17	.0825	5
18	.0875	5
19	.0925	5
20	.0975	W4448
21	220.1025	W4447
22	.1075	5
23	.1125	5 Non-Government
24	.1175	:444U Nationwide
25	.1225	5 Systems
26	.1275	5
27	.1325	5
28	.1375	5
29	.1425	5
30	.1475	W4448
31	220.1525	W4447
32	.1575	5
33	.1625	5
34	.1675	5
35	.1725	5
36	.1775	5
37	.1825	5
38	.1875	5
39	.1925	5
40	.1975	5
41	220.2025	:444U Trunked Systems
42	.2075	5 (See next paragraph -
43	.2125	5 Trunked Channel Groups)
44	.2175	5
45	.2225	5
46	.2275	5
47	.2325	5

Ch. #	Base Frequency (In MHz)		Function
48	.2375	5	
49	.2425	5	
50	.2475	W4448	
51	220.2525	W4447	
52	.2575	5	
53	.2625	5	
54	.2675	5	Non-Government
55	.2725	:444U	Nationwide
56	.2775	5	Systems
57	.2825	5	
58	.2875	5	
59	.2925	5	
60	.2975	W4448	
61	220.3025	W4447	
62	.3075	5	
63	.3125	5	
64	.3175	5	
65	.3225	5	
66	.3275	5	
67	.3325	5	
68	.3375	5	
69	.3425	5	
70	.3475	5	
71	220.3525	:444U	Trunked Systems
72	.3575	5	(See next paragraph -
75	.3625	5	Trunked Channel Groups)
74	.3675	5	
75	.3725	5	
76	.3775	5	
77	.3825	5	
78	.3875	5	
79	.3925	5	
80	.3975	W4448	
81	220.4025	W4447	
82	.4075	5	
83	.4125	5	
84	.4175	5	Non-Government
85	.4225	:444U	Nationwide
86	.4275	5	Systems
87	.4325	5	
88	.4375	5	
89	.4425	5	
90	.4475	W4448	
91	220.4525	W4447	
92	.4575	5	
93	.4625	5	
94	.4675	5	
95	.4725	5	
96	.4775	5	
97	.4825	5	
98	.4875	5	
99	.4925	5	
100	.4975	5	
101	220.5025	:444U	Trunked Systems
102	.5075	5	(See next paragraph -
103	.5125	5	Trunked Channel Groups)
104	.5175	5	
105	.5225	5	
106	.5275	5	
107	.5325	5	
108	.5375	5	
109	.5425	5	
110	.5475	W4448	
111	220.5525	W4447	
112	.5575	5	
113	.5625	5	
114	.5675	5	Government
115	.5725	:444U	Nationwide
116	.5775	5	Systems
117	.5825	5	
118	.5875	5	
119	.5925	5	
120	.5975	W4448	
121	220.6025	W4447	
122	.6075	5	
123	.6125	5	
124	.6175	5	
125	.6225	5	
126	.6275	5	
127	.6325	5	
128	.6375	5	
129	.6425	5	
130	.6475	5	
131	220.6525	:4444U	Trunked Systems

Ch. #	Base Frequency (in MHz)		Function
132	.6575	5	(See next paragraph -
133	.6625	5	Trunked Channel
Groups)			
134	.6675	5	
135	.6725	5	
136	.6775	5	
137	.6825	5	
138	.6875	5	
139	.6925	5	
140	.6975	W44448	
141	220.7025	W44447	
142	.7075	5	
143	.7125	5	
144	.7175	5	Non-Government
145	.7225	:4444U	Nationwide
146	.7275	5	Systems
147	.7325	5	
148	.7375	5	
149	.7425	5	
150	.7475	W44448	
151	220.7525	W44447	
152	.7575	5	
153	.7625	5	Non-Government
154	.7675	:4444U	Nationwide
155	.7725	5	Systems
156	.7775	5	
157	.7825	5	
158	.7875	5	
159	.7925	5	
160	.7975	W44448	
161	220.8025	W44447	
162	.8075	5	
163	.8125	5	
164	.8175	5	Public Safety/Mutual
Aid			
165	.8225	:4444U	Operations
166	.8275	5	
167	.8325	5	
168	.8375	5	
169	.8425	5	
170	.8475	W44448	
171	220.8525	W44447	
172	.8575	5	
173	.8625	5	
174	.8675	5	
175	.8725	:4444U	Available for any use
176	.8775	5	
177	.8825	5	
178	.8875	5	
179	.8925	5	
180	.8975	W44448	
181	220.9025	W44447	
182	.9075	5	
183	.9125	5	
184	.9175	5	
185	.9225	5	
186	.9275	5	
187	.9325	5	
188	.9375	5	
189	.9425	5	
190	.9475	5	
191	220.9525	:444U	Data Operations
192	.9575	5	See Note *
193	.9625	5	
194	.9675	5	
195	.9725	5	
196	.9775	5	
197	.9825	5	
198	.9875	5	
199	.9925	5	
200	.9975	W44448	

*** Note: Channels 181-185 and 196-200 are indefinitely reserved until further FCC action and are not currently available for assignment or use.**

Trunked Channel Groups

The channel groups listed in the following Table are available to both Government and non-Government applicants for trunked operations.

Table - Trunked Channel Groups

Group #	Channel #	Group #	Channel #
1	1-31-61-91-121	11	11-41-71-101-131
2	2-32-62-92-122	12	12-42-72-102-132
3	3-33-63-93-123	13	13-43-73-103-133
4	4-34-64-94-124	14	14-44-74-104-134
5	5-35-65-95-125	15	15-45-75-105-135
6	6-36-66-96-126	16	16-46-76-106-136
7	7-37-67-97-127	17	17-47-77-107-137
8	8-38-68-98-128	18	18-48-78-108-138
9	9-39-69-99-129	19	19-49-79-109-139
10	10-40-70-100-130	20	20-50-80-110-140

Endnotes for Chapter 4

1. Territorial Base Line is the line from which sea limits are measured.

2. See IRAC Documents 3813/1-1.3.6/4.11; 7661/1-2.4.2; 8989/1-2.10/4.11; and 9084/1-2.10/4.11.

3. See Sections 8.2.48 and 9.1.2.

4. As indicated in Limitation 9, Section 4.3.11, transmissions by fixed stations are limited to the control of base station repeaters.

(Last page in Chapter 4)